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ABSTRACT

This guide to reading instruction for elementary and middle school students with learning difficulties covers a wide variety of practical instructional strategies founded in research and proven effective in classrooms. An introductory chapter notes the growing national emphasis on reading skills, especially research-based reading programs and the special needs of students with learning disabilities or difficulties. The next six chapters address the following topics (sample sub-topics in parentheses): (1) the reading brain and literacy instruction (assessments of early literacy, brain compatible reading instruction, and a brain-based model of reading); (2) phonemic instruction, the critical emphasis in reading and literacy (phonological and phonemic instruction, guidelines for phonemic instruction, and phonemic based reading programs); (3) phonics and word attack strategies (phonics and the brain, phonics instructional options, and strategies for developmental reading and spelling); (4) strategies for building vocabulary and reading fluency (the role of sight-word approaches, how good readers read, and deriving meaning from vocabulary); (5) gaining meaning from reading (story grammar, question answering, collaborative strategic reading); and (6) reading comprehension in the content areas (content area reading and the brain, analogies instruction, and idea circles). A section on resources reviews five major reading and literacy programs. A glossary and facilitator's guide are also included. (Individual chapters contain references.) (DB)

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Reading Strategies for Elementary Students with Learning Difficulties

By
William N. Bender
Martha J. Larkin

2003

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Reading Strategies for Elementary Students With Learning Difficulties

INCLUDES Built-In Facilitator Guide for Professional Development Workshops

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William N. Bender

Martha J. Larkin

Reading Strategies
for Elementary Students With Learning Difficulties

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William N. Bender Martha J. Larkin

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Introduction

A New Age in Reading Instruction for Students With Learning Disabilities

With the turn of the millennium, a new age in reading instruction began for students with learning disabilities and other reading disorders. While reading problems had been a concern for many years, increasing emphasis on effective reading instruction was noted in several arenas—medical, research, and political to name only a few. In the 1990s, not only were new strategies being developed for reading instruction (e.g., phonemic-based instruction), but strategies developed in the 1980s were finding wide acceptance among teachers in elementary and middle school inclusive classes (e.g., metacognitive learning strategies). Further, several brain-scanning techniques were being developed and applied to the study of reading in students with learning disabilities. Also, new research in genetics offered the promise of alleviating some reading problems in the future. Finally, on the political stage, several reports and legislative efforts created a major new emphasis on reading and early literacy instruction. All these initiatives have created new demands on teachers and a new age in reading instructional techniques for today's classrooms.

NEW READING INSTRUCTIONAL STRATEGIES NEEDED NOW!

Reading and literacy skills are some of the most important skills a child with learning disabilities and other reading difficulties can master during the early years of schooling, because reading skills are the basis for subsequent mastery of almost every subject area (Kame'enui, Carnine, Dixon, Simmons, & Coyne, 2002). For this reason, reading traditionally has

received heavy emphasis in our nation's schools. However, research on the reading skills among children with learning disabilities and other reading difficulties has documented a higher rate of failure in reading instruction than any nation can afford. For example, almost 20% of the nation's schoolchildren encounter some reading problems prior to Grade 3, and approximately 40% read below level for their grade (Kame'enui et al., 2002; National Institute of Child Health and Development [NICHD], 2). From this group of students with reading difficulties comes the students who eventually are placed in classes for students with learning disabilities.

THE GROWING NATIONAL EMPHASIS ON READING

Because of the reading problems noted above, a fundamental effort toward improving reading skills has been initiated at both the state and the national levels. The national emphasis on reading has resulted in two highly publicized efforts and one additional report that received somewhat less attention. First, in 1997, the federal government convened an expert panel—the National Reading Panel—to determine what instructional strategies work best in reading instruction (NICHD, 2). The work of this group will be presented at numerous points throughout this book.

Next, the more recent federal initiative referred to as the "No Child Left Behind" legislation has added additional emphasis to the incorporation of reading instruction into every elementary and middle school classroom. Specifically, the No Child Left Behind legislation mandated that each state receiving federal funding in education submit a plan for reading instruction to the federal government. These state reading plans were required to stipulate the specific research-based reading instructional curricula that the state planned to use to assess and address early literacy deficits among students with learning disabilities as well as other students at risk for reading failure. After a review at the federal level of 40 such state plans, only 11 plans were approved, and of those plans that were not approved, the Department of Education, which conducted the review, indicated that most did not show how the funds would be spent on research-based reading programs (Manzo, 2002). Clearly, this represents a new emphasis on research-driven best practices in reading for each and every classroom.

Based on this legislation, teachers now will be expected to use only research-proven reading instructional strategies and to intervene for every child (hence the "no child left behind" language) as soon as a reading problem is noted. Across the nation, schools are providing professional development opportunities to prepare teachers for this emphasis on research-proven strategies, and this emphasis will increase during the next few years.

Finally, because of the increasing numbers of students who are identified with learning disabilities, based on reading problems, President Bush appointed a presidential commission to review special education practices. In 2001, that Commission on Excellence in Special Education produced its report, titled *Revitalizing Special Education for Children and Their Families.* That report highlighted the fact that the vast majority of students identified as learning disabled are identified based on a reading deficit. Clearly, this points to an emerging emphasis on reading instruction for students with learning disabilities.

Further, the commission suggested a major restructuring of special education services in several areas. For example, the commission recommended simplifying the assessment procedures for special education and collapsing the current 13 disabilities identified by federal regulations into only three broad disability categories (Council for Exceptional Children [CEC], 2002) as follows:

Sensory disabilities, such as visual impairments, hearing impairments, and deaf-blindness

Physical and neurological disabilities, such as multiple disabilities, autism, traumatic brain injury, and other health impairments

Developmental disabilities, such as learning disabilities, speech and language impairments, emotional disturbance, and mild mental retardation

Clearly these disability categories, if implemented within the next several years, drastically will affect not only the area of learning disabilities, but also many other students with reading problems in the elementary grades (CEC, 2002), since reading problems seem to be the basis for many disabilities. While it is a bit premature to determine if full implementation of the Commission's recommendations will result in actual federal legislation and ultimately changes in the way schools identify students with learning disabilities, it is certain that this report has heightened the emphasis on research-based reading instruction.

REFLECTIVE EXERCISE
THE NATIONAL READING PANEL SYNOPSIS

At various points in the text, we will present a suggestion for an exercise or activity for you, which will enable you to reflect on the information and strategies provided. Of course, these exercises are optional, but taking a few minutes and exploring via these reflective exercises should assist you in developing a larger set of reading instructional ideas for students with learning disabilities.

> As your first reflective exercise, visit the Web site of the National Reading Panel (NRP) and review the summary report of the NRP (www.nationalreadingpanel.org). You may wish to familiarize yourself with that Web site, since we will refer to these findings throughout this book.

With these three national initiatives noted, the nation has experienced a new, critically important emphasis on reading instruction—a new age in reading instruction has begun. All elementary and middle school educators will be expected to provide research-proven reading instruction for students with learning disabilities and other reading problems in general education classes and special education classes. Teachers will be expected to provide a range of instructional options, including whole class, small group, and individual instructional strategies within the context of the inclusive general education class. Further, teachers will need to emphasize reading skills much more, across all subject areas in the elementary and middle grades. This book is intended to facilitate research-based early reading instruction, as well as effective reading instruction through the middle grades.

LEARNING DISABILITIES AND EARLY READING PROBLEMS

Learning Disabilities or Learning Difficulties?

It is no secret that students with learning disabilities present an array of reading problems from the earliest years of their schooling. However, because the term *learning disabilities* is defined as a discrepancy between reading achievement and intelligence, students who have this disability often are not identified until their second or perhaps even their third year in school (Bender, 2001). In fact, in most cases a reading problem must develop prior to specifically identifying a particular child as demonstrating a learning disability. This presents a problem for many children since children must fail in reading—or in some other subject area—prior to identification and subsequent assistance with their reading problems. The Commission on Excellence in Special Education (2001) noted that this "wait to fail" basis of services for students with learning disabilities was unfair and inadequate.

This arrangement is even less satisfactory when one considers the fact that so much critical and essential reading instruction takes place during the first several years of schooling, beginning in early kindergarten and continuing throughout the early grades. Are teachers merely to ignore reading problems during kindergarten and Grade 1, while anticipating that a child will eventually receive services in a class for

students with learning disabilities in Grade 2 or 3? Clearly, this approach is not satisfactory, and teachers have a moral obligation to provide effective, enhanced reading instruction from the first signs of difficulty on the part of the child.

In order to address reading problems among students with learning disabilities who may not have been identified in kindergarten or in Grades 1 and 2, we have chosen in this book to discuss students with learning difficulties or reading difficulties rather than learning disabilities only. Clearly it would be incorrect to use the term *learning disabilities* for students who have not been so identified, and for our purposes here we view many students with early reading problems as students who eventually may be identified and placed in classes for students with learning disabilities. The broader terms *learning difficulties* and *reading difficulties* should be taken to mean all students who have reading problems, many of which may date from their earliest schooling. Further, this group of students with learning difficulties also would include students who may later be identified as students with attention deficit hyperactivity disorder (ADHD) or other reading problems. Hopefully, use of this term, rather than the term learning disabilities, will ease communication throughout this text. Also, note that all the reading tactics, strategies, and assessments presented in this text are equally useful for all those students with reading problems that manifest in the elementary or middle grades.

Cognitive Deficits and Learning Difficulties

With that qualification of terms in mind, there are several learning characteristics of students with learning difficulties that negatively impact reading success. First, students with learning difficulties often demonstrate problems in attention skills; this particularly is true for students who eventually are identified as ADHD or learning disabled. Further, the attention deficits demonstrated by these students will negatively impact reading achievement over time (Sousa, 2001). Clearly, if a child with learning difficulties does not—or cannot—pay attention during instruction on letter recognition or other early reading skills, that child will have reading difficulties later on. Many such attention problems lead eventually to significant reading problems.

Next, the memory skills of many children who manifest reading problems in the elementary and middle grades are quite weak (Bender, 2001; Sousa, 2001). Of course, every teacher in the elementary grades has experienced at least one child who seemed to grasp the meaning of new vocabulary terms on one day, only to seem clueless the very next day when the same terms are presented again. Also, students with memory problems often manifest the ability to decode a word (i.e.,

sound out a word using letter sounds), but seem to forget the new term within a period of days. These memory problems can be identified as the root of many subsequent reading problems. Thus, many students with learning difficulties will need to receive much more applied practice in order to memorize new terms in reading.

Finally, many students with learning disabilities demonstrate cognitive deficits in visual or auditory processing skills. Students with visual processing problems often have trouble copying information from the dry-erase board or from their text. For some students, the letters in words seem to move across the page as students read. Obviously, these deficits will have a negative impact on reading (Sousa, 2001).

For example, one subgroup of students with learning disabilities manifests a reading disorder referred to as dyslexia (Bender, 2001). Historically, dyslexia has been associated with visual processing problems that interfere with letter and word identification in reading. Clearly, if a student perceives letters to be swimming across the page or if recognition of one letter interferes with recognition of subsequent letters in the word, that student will have problems in reading. This brief discussion highlights only a few of the cognitive processing problems that may negatively impact reading, and other brain-based cognitive processing problems are presented in more detail.

THE PURPOSE OF THIS BOOK

Our purpose in writing this book is to provide for elementary and middle grade teachers a practical set of research-based instructional strategies for students with learning disabilities and other learning difficulties. Teachers need practical strategies that are grounded in effective research and work in the real context of today's classrooms, and these tactics are proven in elementary and middle school classes across the nation. Within the book, teachers will find strategies and instructional examples for use in inclusive classrooms, as well as in one-to-one teaching situations.

We should note that throughout this book we use the term *strategy* for an involved instructional idea or concept that takes some degree of teacher time to develop for use in the classroom. In contrast, we use the term *tactic* to represent a series of toss-out ideas that can be easily and immediately implemented with little or no preparation. Often tactics are presented in lists or teaching tips throughout the text, while more involved strategies are described in more detail within the text.

While research-proven reading strategies are now mandated nationally, our intention is not to provide extensive research reviews of these strategies, nor do we review all the available curricula on the commercial market. Rather, this book presents a one-stop source for reading

instructional ideas in the elementary and middle grades (approximately Grades K through 7), with the research-based strategies presented only sparingly. We hope this will provide teachers with a ready reference for their increasingly important role in reading instruction for students with learning difficulties.

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The Reading Brain and Literacy Instruction

Strategies Presented in This Chapter Include

- ✔ Big Ideas From Reading Research
- ✔ Several Informal Early Literacy Assessments
- ✔ A Phonics Literacy Checklist
- ✔ DIBELS
- ✔ Ten Tactics for the Brain Compatible Classroom
- ✔ Brain Compatible Research Results for the Classroom Teacher

THE GOOD NEWS IN READING RESEARCH!

While the initial picture of reading success among students with learning disabilities and other reading difficulties, as presented by the National Reading Panel [NRP], is not overly positive, there is good news to report (National Institute of Child Health and Development [NICHD], 2000). Research on reading instruction has exploded in the past two decades, resulting in major advances in several related areas including biological bases for reading, literacy instruction, phonological awareness research, and reading comprehension instructional tactics for students with reading difficulties (Chard & Dickson, 1999; Joseph, Noble, & Eden, 2001; Sousa,

2001; Sylwester, 2001; Wood & Grigorenko, 2001). Much of this research is rather esoteric in nature and generally not readily accessible for the practicing teacher. In fact, a major emphasis of this book is to make this research—and the instructional ideas that are based in it—readily available to every elementary and middle school teacher in the classroom.

Within this growing body of research, two emerging emphases will provide the basis for this text—the emphasis on a holistic view of early literacy instruction (Haager, 2002; McCutchen et al., 2002; Shaker, 2001) and the growing literature on brain compatible reading instruction (Prigge, 2002; Sousa, 2001; Sylwester, 2001). Each of these emphases is presented below in order to provide a backdrop for the strategies discussed in this and each subsequent chapter. First, a brief synopsis of the general reading research is presented.

BIG IDEAS FROM EARLY LITERACY RESEARCH

As mentioned previously, there has been an explosion of research in the area of reading within the past decade (Bender, 2001; NICHD, 2000). As a result, a number of recent research-based conclusions have been developed concerning how reading skills progress among learners without reading difficulties. A number of points about reading instruction from a variety of sources are presented in order to provide a basis for discussion of the reading strategies and tactics for students with reading problems (Kameenui, Carnine, Dixon, Simmons, & Coyne, 2002; NICHD, 2000; Sousa, 2001). These *big ideas* represent our best understandings of reading difficulties, as well as the best practices in reading instruction for all students today. These seven ideas are:

- Reading is not natural
- There is no "reading" area in the brain
- Reading disabilities result from both genetic and environmental influences
- Development of reading skill is complex and long term
- Students must learn the alphabetic principle and the alphabetic code
- Phoneme manipulation and phonics are the most effective ways to teach reading
- Students must develop automaticity with the code

Reading Is Not Natural

Unlike sight, hearing, cognition, or the development of language, reading is not a natural process. For example, an infant isolated on an island

will develop sight, hearing, attention skills, rudimentary numeration and counting skills, and language of some sort, but reading will not develop naturally (Sousa, 2001; of course, a human infant isolated on an island probably will not survive, but give us some literary flexibility here!). In short, reading skills will not develop unless these skills are specifically taught, so teachers should emphasize them in every aspect of the school curriculum throughout the early and middle school years.

There Is No "Reading" Area in the Brain

While regions of the brain can be associated with sight, hearing, physical movement, or language, there is no single reading area within the brain. Rather, reading involves many more areas of the brain than does language development. While speech and language seem to be "hard-wired in the brain," with specific areas related to these skills, reading is not hardwired in only one or two brain areas (Sousa, 2001). This is one reason that reading skill does not develop naturally.

Reading Disabilities Result From Both Genetic and Environmental Influences

The evidence for a genetic abnormality which may lead to a reading disability has grown stronger over the years (Wood & Grigorenko, 2001), and various research studies have implicated a variety of specific regions within specific chromosomes as possible genetic problem areas for students with learning disabilities—particularly chromosomes 1, 2, 6, 13, 14, and 15 (Raskind, 2001). However, much more research is needed prior to isolating a specific genetic basis for either learning disabilities or reading disabilities. Further, while teachers cannot control genetic influences in a child's life, they can control the environment in which reading instruction occurs, and manipulating that reading environment offers teachers the best option to assist students in developing reading skills. For our purposes, we will concentrate on environmental strategies and tactics for enhancing reading, rather than the growing literature on genetic causes of reading problems for students with learning disabilities. Teachers also would be well advised to adopt such an emphasis on environmental–instructional bases of reading development.

Development of Reading Skill Is Complex and Long Term

All children speak (or communicate in some fashion) before they read, and speech sounds serve as the basis for reading. A phoneme is the briefest discrete sound which can communicate meaning in the English language. Some research reports 41 phonemes in English (NICHD, 2000), while other research suggests there are 44 (Sousa, 2001). Reading

involves making brain connections between phonemes and graphemes, or the squiggly lines on a page that represent printed letters. This transition is very difficult for some 30% of children, and these children develop reading problems to some degree; this group also includes children who are later identified as students with learning disabilities.

Just to confuse matters further, there is no one-to-one relationship between the phonemes and the specific letters in our alphabet. Thus, learning to read is both a complex and a long-term endeavor for all students, and students with learning disabilities in particular (Kame'enui et al., 2002). Teachers in kindergarten through middle school should build reading instruction into every instructional period as a primary and major emphasis, and recent federal and state initiatives are emphasizing that instructional need.

Students Must Learn the Alphabetic Principle and the Alphabetic Code

The *alphabetic principle* involves both the fact that some speech sounds can be represented by letters and the ability to decode unknown words based on those letter–sound relationships. The *alphabetic code* represents the relationships between letters and the sounds they represent. Research has documented that students with learning disabilities must learn the alphabetic principle in order to read effectively across the grade levels; merely memorizing words and word meanings is not enough for successful reading long term (Kameenui et al., 2002). Further, the alphabetic principle is not learned merely from exposure to print, but must be specifically taught (Sousa, 2001).

Phoneme Manipulation and Phonics Are the Most Effective Ways to Teach Reading

While debate has raged for decades over phonics versus sight word instructional techniques (this debate is discussed in more detail in Chapter 4), the evidence has clearly shown that an emphasis on phonics, as represented by the alphabetic principle (i.e., discrete sound manipulations and sound–letter relationships), is the most effective instructional method for reading for almost all children with and without reading problems (NICHD, 2000). Elementary and middle school teachers should emphasize the relationships between sounds and letters in every subject area whenever possible.

Students Must Develop Automaticity With the Code

While phoneme manipulation, phonetic decoding, word segmentation, and use of context clues to determine word meaning are all essential

skills in early reading, rigorous application of these skills for every letter or word on the page would result in a highly cumbersome reading process. Rather, in order to develop effective reading skills, students must learn the alphabetic principle and the alphabetic code extremely well, so that the brain processing involved in decoding these letter sounds is "automatic" (Kameenui et al., 2002)—this is referred to as automaticity. In that fashion, the student's brain may process many letters, sounds, or words at one time, and fluent reading is possible. Teachers should build their instruction such that every child with reading problems can attain automaticity in reading.

REFLECTIVE EXERCISE 1.1
USING THE BIG IDEAS FROM READING RESEARCH

Pause for a moment and consider the big ideas presented above. Almost all these ideas can suggest instructional ideas within the classroom for students with learning disabilities and other reading difficulties, and we encourage you to reflect on how many of these ideas are currently implemented in your class. Remember that, with the growing national emphasis on reading, all teachers in elementary and middle grades should be teaching reading skills and should be building an emphasis on these skills into every lesson plan.

THE EMERGING EMPHASIS ON LITERACY

With these big ideas from the reading research noted, a new emphasis on early literacy instruction—versus merely an emphasis on reading—has emerged (McCutchen et al., 2002; Shaker, 2001). Literacy approaches focus not only on the discrete skills in reading such as phonics and reading comprehension (Bos, Mather, Silver-Pacuilla, & Narr, 2000; Patzer & Pettegrew, 1996; Smith, Baker, & Oudeans, 2001), but also on the more holistic set of skills that enhances and supports a student's skill in reading, such as the student's ability to speak, write, and listen effectively, as well as to use these literacy skills in reading and communicating (Winn & Otis-Wilborn, 1999). The emphasis in a literacy approach is on the interrelationship between reading, writing, and language and the interdependence of these systems within the human brain. However, this certainly does not mean that the particulars of phoneme manipulation, phonics, word attack, or comprehension are not taught—they are. Rather, the emphasis is on the end goal of reading—the ability to derive meaning from the written word and to use that skill as a communication tool.

Further, within the literacy emphasis, there is a growing emphasis on assisting struggling readers to improve their literacy skills, rather

than merely a focus on remediation of specific and discrete reading deficits (Dayton-Sakari, 1997). In most cases, this results in an emphasis on the phoneme manipulation skills that have not been mastered previously or on instruction on the alphabetic principle. Smith et al. (2001) delineated several components of early literacy instruction that constitute an effective literacy program. Notice the emphasis on discrete skill instruction on letter names and sounds in the following skills.

1. Allocation of time for daily, highly focused literacy instruction
2. Consistent routines for teaching the big ideas of literacy
3. Explicit instruction for new letter names and sounds
4. Daily scaffolded or assisted practice with auditory phoneme detection, segmenting, and blending
5. Immediate corrective feedback
6. Daily application of new knowledge at the phoneme and letter-sound levels across multiple and varied literacy contexts
7. Daily reviews

A word of explanation may be in order for several of these skills. First, examples of big ideas in literacy instruction may include things such as teaching the alphabet as *code* or teaching students that all stories have structure (e.g., character, story problem, climax) and using story structure as a basis for instruction. Next, the term *scaffolded* in point 4 refers to the supports that a teacher provides to an individual child in assisting that child to improve his or her current reading skill. Typically, scaffolded instruction involves an in-depth, individualized examination of the reading skills, instructional support from the teacher to the child for the next skill to be mastered, and a planned withdrawal of support from the student to ensure that the student masters each successive skill independently (Larkin, 2001).

Research on Literacy Instruction

Consistent with the broader research results reported earlier, research on early literacy instruction has supported a strong phoneme-based instructional approach for students with reading problems (Bos et al., 2000; NICHD, 2000; Patzer & Pettegrew, 1996; Smith et al., 2001). The research supports the use of oral reading or choral reading as an instructional technique to enhance reading fluency, since reading is dependent upon a student's language ability. Also, oral reading practice is recommended since students often are called upon to read orally in class across the grade levels (NICHD, 2000). This emphasis will be discussed in more detail later in the book.

Next, early instruction in reading should be quite robust; that is, instruction in each area of reading skill should be undertaken with sufficient intensity to assist students in reaching their early reading goals.

Research has also shown that, for young readers who lag behind others in kindergarten and first grade, phonological instruction is even more important in their early literacy instruction (Kame'enui et al., 2002). In point of fact, students who miss early phonological instruction will always lag behind in reading, and phonological instruction may be necessary in the late elementary or middle school grades for those students with reading problems.

McCutchen et al. (2002) used an experimental design and studied teachers' awareness of these newly emerging literacy emphases by investigating teachers' instruction and student outcomes in 44 classrooms scattered throughout the western states. These researchers not only assessed teacher knowledge of these literacy skills, but also observed how teachers instructed their students and noted the students' outcomes in phonological awareness, listening comprehension, and word reading. The results indicated that teachers were, in many cases, unaware of this emerging emphasis on phonemic instruction. However, based on a two-week instructional workshop, the teachers in the experimental group quickly grasped the importance of this emphasis, as well as the instructional techniques involved. Those teachers then implemented these practices, and student outcomes improved rather dramatically in each area.

The good news from this study, as well as other research, is that phonological awareness is a teachable skill—teachers can learn these instructional techniques and students can learn the phonological manipulation skills which will improve their overall reading skill. Many of these instructional techniques are presented in Chapter 2, which concentrates on phonemic instruction, as well as subsequent chapters. Further, these results document that adequate instruction in that area will enhance the reading of students who display subsequent reading disabilities (Kameenui et al., 2002; Smith et al., 2001). Thus, as teachers become aware of this broader emphasis on early literacy instruction, as well as the need to emphasize the alphabetic principle and phonemic instruction, the prognosis for remediation improves considerably.

REFLECTIVE EXERCISE 1.2
DEVELOPING LITERACY INSTRUCTIONAL SYSTEMS

With the emerging emphasis on literacy during recent years, coupled with the No Child Left Behind legislation from the federal government in 2001, a number of comprehensive literacy programs have been developed. These new literacy programs involve a wide array of skills ranging from early phoneme instruction through reading and writing skills. As one example, you may wish to review the Four Blocks program by Patricia M. Cunningham and Dorothy P. Hall (www.four-blocks.com). The

four blocks involve (1) guided reading, (2) self-selected reading, (3) writing, and (4) working with words. The pilot research on this project indicated strong initial results in one school in North Carolina. The Four Blocks program is a comprehensive program that involves the entire range of literacy skills.

A List of Early Literacy Skills	
Development of oral language	Birth to 24 months
Phoneme discrimination	Birth to 11 months
Says first words	6 months to 11 months
Follows simple verbal directions	12 months to 17 months
Pronounces first vowels and most consonants	18 months to 24 months
Enjoys having a story read	18 months to 24 months
Awareness of certain letters (such as letters presented in advertising; i.e., *M* stands for McDonalds and *K* for Kellogg's)	24 months to 36 months
Complex phoneme manipulation	48 months to 8 years
Can tell a story	36 to 48 months
Becomes aware of the alphabetic code (i.e., letters stand for specific sounds)	48 months to Grade 1
Begins to read first words	48 months to Grade 1
Can grasp meaning from reading short paragraphs	Grade 1 to Grade 3
Begins to comprehend longer texts	Grade 1 to Grade 3

Development of Early Literacy Skills

With the continuing research efforts in reading, as well as the advent of several newly developed research technologies (described below), we have gained a more complete picture not only of how reading skills develop, but of the dependent relationship between reading and the development of language. A representation of the development of these interrelated skills is presented below.

As you can see, reading is dependent upon the development of language in most children, and children with learning difficulties are no different in terms of these general milestones. However, children at risk for reading failure do progress through these milestones somewhat later than other children. Likewise, children who are hearing impaired do not follow this sequence, but the placement of oral language at the top of

this list of skills correctly presents language as a fundamental basis for reading for almost every child.

Also, note that informal reading instruction begins prior to school. In our society, children—including children with learning difficulties in reading—learn that a *K* means breakfast cereal (can't every three-year-old grab the cereal from the cabinet under the sink?) and an *M* means McDonalds. Children are surrounded by letters and many pick up the correct meaning of those letters at an early age. Of course, parents are well advised to engage in *word play* or *letter play* whenever young children show an interest in these letters. This can prepare a child for later work in reading. Finally, teachers should make letter play and word play a fun aspect of the classroom from the prekindergarten programs through the elementary grades. This greatly will enhance the reading skills of the students with learning disabilities in the class and will develop reading skills that will stay with those children throughout life.

ASSESSMENTS OF EARLY LITERACY

Using Informal Literacy Checklists

As an example of a comprehensive literacy strategy, teachers may wish to consider using a literacy checklist. Literacy checklists are available from many sources and have been offered by a number of authors in the literature. The skills on the checklists may reflect the entire array of reading skills ranging from early phonemic awareness to higher order reading comprehension. However, rather than depend on checklists devised by a reading scholar, Winn and Otis-Wilborn (1999) suggest the use of individually developed checklists for monitoring the literacy of individual students. An individually developed checklist allows the teacher to develop individually the items on the checklist and thus to specifically tailor the checklist to the needs and strengths of the student. A sample of such a literacy checklist is presented in the following teaching tip.

As you can see, this informal literacy checklist encompasses a wider variety of literacy skills, in this case phonemic and phonics skills, than would a traditional reading instructional lesson, and this broader view is the perspective supported by proponents of literacy instruction. Of course, teachers should vary the reading skills on the checklist for each student to reflect specifically those literacy skills that are relevant for that particular student. For some students the indicators on the checklist would be exclusively comprehension, and for other students a mix of decoding or word attack skills and comprehension skills may be noted. A checklist for comprehension skills that would be useful for elementary and middle school students is presented below. Teachers should feel free to alter or adapt these checklists to exclude or include any skills relevant for a particular student.

Teaching Tip 1.1

A Sample Literacy Checklist

Name _____ Date _____ Reading Material _____

While listening to a child read, the teacher should note below specific examples of the successes and difficulties experienced. Completing this checklist during several reading activities will present a more complete picture of the child's reading skills. The teacher may also complete this checklist at the end of the grading period, as a postinstructional assessment.

1. Attempts to decode unknown words _____
2. Difficulty with initial consonant sounds _____
3. Difficulty with vowels _____
4. Difficulty with consonant blends _____
5. Difficulty with multisyllabic words _____
6. Demonstrates self-correcting _____
7. Demonstrates understanding _____

Teaching Tip 1.2

A Comprehension Checklist for Elementary Textbook Reading

Name _____ Date _____ Reading Material _____

While listening to a child read from a subject area textbook, the teacher should note below specific examples of the successes and difficulties experienced. Completing this checklist during several reading activities will present a more complete picture of the child's reading skills. The teacher also may complete this checklist at the end of the grading period, as a postinstructional assessment.

1. Reflects on the relationship between the current chapter and previous or subsequent chapters. _____
2. Reviews chapter headings and subheadings prior to reading. _____
3. Reviews vocabulary lists or review questions prior to reading. _____
4. Reflects on pictures and picture captions presented in text. _____
5. Makes predictions about information which may be found in various sections of the chapter text. _____
6. Reads the chapter reflectively. _____
7. Answers comprehension or review questions after reading with 85% accuracy.

DIBELS: An Informal Assessment of Basic Literacy

The Dynamic Indicators of Basic Early Literacy Skills (DIBELS; Good & Kaminski, 2002) is an informal assessment of early literacy skills that can be obtained *free* from http://DIBELS.uoregon.edu. While we do not intend to discuss large numbers of curricula or assessments in this book, we will present commercial materials that are research based and can enhance reading assessment and instruction for students with learning difficulties. (We particularly enjoy sharing information on materials that can be obtained free of charge!) On that basis, we recommend that every teacher of kindergarten through Grade 3 take the time to download this informal assessment of early literacy skills. Downloading this assessment can take some time, however, so it has also been made available for purchase from Sopris West, in Longmont, Colorado.

DIBELS is a research-based assessment and is quite easy to administer—individual sections of this assessment take approximately two to three minutes to complete, which makes this assessment a user-friendly approach to early literacy instruction.

DIBELS is based on a number of early indicators of literacy success (Haager, 2002). Its four stepping stones indicate with a high degree of accuracy which students will display learning difficulties and eventual learning disabilities in reading. For example, by two months into kindergarten, students should master onset recognition—referred to as initial sounds fluency—and that measure becomes a benchmark. Students who do not master initial sounds fluency by several months into kindergarten are quite likely to develop later reading difficulties (Haager, 2002). Other stepping stones through the first several years of school, such as those presented below, represent similar benchmarks.

Onset fluency (initial sounds)	Two months into kindergarten
Phoneme segmentation fluency	End of kindergarten
Nonsense words fluency	Middle of Grade 1
Oral reading fluency	End of Grade 1

The DIBELS assess students' performance on these benchmarks and can predict, with a high degree of accuracy, which students will develop subsequent reading problems. This assessment also includes some higher level reading skills such as oral reading fluency through Grade 3. Other DIBELS measures include word-use fluency and retelling fluency (story retelling frequently is used as an indicator of early reading comprehension). Again, for students who meet these benchmarks on time, reading difficulties are not likely to develop. However, for students who do not master these skills at the times mentioned above, reading problems are quite likely to develop. Thus, in order for teachers

to determine which students are having difficulty or may be likely to have difficulty, DIBELS is quite useful as an information measure of early literacy skill.

BRAIN COMPATIBLE READING INSTRUCTION

With the growing national emphasis on early literacy in mind, we can turn to the emerging information on how the human brain learns to process information during the reading process. This area of research—commonly known as brain compatible instruction—has emerged only within the past decade and is based primarily on improvements in the medical sciences (Leonard, 2001; Prigge, 2002; Sousa, 2001; Sylwester, 2001). In fact, much of our increasing understanding of the human brain has come from the development of the functional magnetic resonance imaging techniques (a technique which is sometimes represented in the literature as the fMRI). This is a nonradiological technique—and thus a relatively safe brain-scanning technique—which has allowed scientists to study the performance of human brains while the subject concentrates on different types of learning tasks (Richards, 2001).

The fMRI measures the brain's use of oxygen and glucose during the thinking process, and from that information, physicians can determine which brain areas are most active during various types of educational tasks (Richards, 2001; Sousa, 2001). For example, specialists have now identified brain regions that are specifically associated with various learning activities such as language, math, auditory processing, motor learning, listening to music, or verbally responding to questions in a classroom discussion (Leonard, 2001). Further, a body of research on students with learning disabilities or other reading disorders also has emerged (Sousa, 2001).

Finally, many researchers have suggested that the research has developed to a point where specific teaching suggestions may be made. Based on this growing understanding of how students with learning difficulties learn, teachers across the nation have begun to restructure their classroom practices based on these brain compatible instruction guidelines (Goldstein & Obrzut, 2001; Leonard, 2001; Sousa, 2001). While various authors make different recommendations, the 10 tactics for a brain compatible instruction classroom, presented in the teaching tip below, represent some of the accumulated thought in this area; these tactics can enhance your reading instructional practices for all students, in particular students with reading difficulties (Gregory & Chapman, 2002; Prigge, 2002; Richards, 2001; Sousa, 2001).

Teaching Tip 1.3

Ten Tactics for the Brain Compatible Classroom

1. *Provide a safe, comfortable environment.* Research on learning has demonstrated that the brain serves as a filter on several levels. The brain selectively focuses on sounds, sights, and other stimuli that threaten our safety, often to the exclusion of other stimuli. A second priority is information resulting in emotional responses, and only as a last priority does the brain process information for new, nonthreatening learning tasks (Sousa, 2001). Thus, students with reading problems must not be distracted by either a sense of danger in their learning environment or emotional threats in the classroom. Unsafe classes and emotional threats or challenges can prevent learning.

2. *Provide comfortable furniture.* As a part of structuring a comfortable learning environment, many teachers bring house furniture into the classroom and set up reading areas with a sofa and perhaps several comfortable chairs for students with learning difficulties. Lamps also are used in brain compatible classrooms for more home-like lighting, and some research has suggested that lighting closer to the red end of the light spectrum functions like a wake-up call for the brain (Sousa, 2001).

3. *Provide water and fruits.* Research has shown that the brain requires certain fuels—oxygen, glucose, and water—in order to perform at peak efficiency (Sousa, 2001). Water is essential for the movement of neuron signals through the brain. Research has shown that eating a moderate amount of fruit can boost performance and accuracy of word memory (Sousa, 2001). Thus, in brain compatible classrooms teachers offer students water and dried fruits quite frequently.

4. *Require frequent student responses.* Students with learning difficulties will learn much more when work output is regularly expected from them, because students generally are much more engaged in the process of learning when they must produce a product of some type (Bender, 2001). Products may include a range of activities such as pictures to demonstrate comprehension of an 1860s Midwestern farm or development of a one-act play to show Washington crossing the Delaware River in the battle of Trenton, New Jersey, during the Revolutionary War.

5. *Base instruction on bodily movements when possible.* Motor learning takes place in a different area than do higher order thought processes within the brain. Motor learning is based in the cerebellum and motor cortex whereas higher order learning and planning takes place in the frontal lobes of the cerebrum. Thus, motor learning takes place in a more fundamental or *lower* brain area than does learning languages and other *higher* brain functions. Also, the brain considers motor skills more essential to survival, because our evolutionary ancestors often had to run from predators or to hunt for prey. Consequently, motor skills (e.g., swimming, riding a bike), once learned, are remembered much longer than cognitive skills (e.g., foreign language) without a motor basis. This suggests that whenever possible teachers should pair factual memory tasks of higher order with physical movements to assist in memory for students with learning difficulties.

(Continued)

Teaching Tip 1.3 (Continued)

9. Increase students' choices. Sylwester (2001) emphasized the use of choices for students. In short, if teachers want their students to make reasonable and informed choices when they are not in the context of the school, teachers must offer choices and coach students in making informed choices within the context of the classroom. Such choices may involve options for demonstrating competence or understanding of a set of facts or other choices among assignments on a particular topic.

10. Use students to teach other students. Teachers should present some information and then pause and let students discuss it and synthesize it (Sousa, 2001). Alternatively, teachers may wish to have students read a short text selection and then discuss it with a peer buddy. One good idea is to have students discuss the information after every five minutes of reading or discussion.

Teachers may say something like the following:

Turn to your learning buddy beside you and take turns explaining the four points I just made and that we just read about. Let me know if you uncover any disagreements in what each of you heard.

The teacher should then move around the room for one to two minutes, listening to the discussions between the students and checking that the students have a correct understanding of the information just presented.

REFLECTIVE EXERCISE 1.3
MY BRAIN COMPATIBLE TEACHING

Consider the 10 tactics for brain compatible instruction described in Teaching Tip 1.3 in terms of your current teaching. The research on brain compatible instruction, while emphasizing many of these tactics, was not the origin for many of these ideas, and you may be currently using many of these tactics in either small group instruction or whole class instruction for students with learning difficulties. Which tactics can you identify as representative of your class this year? Which would you like to use more often? The emerging research does suggest that the more we use these ideas, the stronger our instruction in reading will be. Which new ideas would you like to try?

A BRAIN-BASED MODEL OF READING

While no one argues that teachers should become "brain experts," understanding the basic brain processes involved in reading does help

Teaching Tip 1.3 (Continued)

As an example of movement-based learning in an elementary class, the first author developed the following movement-based teaching idea. Students had read a text selection on the functions of a cell wall in protecting the cell. The lesson required an instructional demonstration that represented a cell wall in the processes of protecting the cell from bacteria while letting in various food enzymes. Initially three students stood together facing inward and locked their elbows tightly to represent the cell wall. The teacher then pointed out, "The cell wall is very strong to protect the cell." Next, the teacher selected a bacteria (i.e., another student) to try to break into the cell, with the cell wall holding that bacteria out. The teacher stated, "Cell walls protect the cell from bacteria." Finally, the teacher had a student representing the friendly enzyme move toward the cell wall to gain entrance. The cell wall let her in without delay! The teacher concluded, "Cell walls let in food and friendly enzymes." Elementary students who participate in this motor learning example will never forget this simple demonstration, because movement was used as the basis for comprehending this reading selection on the functions of a cell wall.

6. *Emphasize visual novelty.* The human brain is specifically attuned to seek out novelty and differences in stimuli (Sousa, 2001). In elementary grade reading instruction teachers should use color enhancements, size, and shape enhancements in developing worksheets or material posted in the classroom. However, in order to make this an effective learning tool, teachers should specifically discuss with the students why certain aspects of the material are colored differently and the importance of those colored items. Students with reading disabilities will benefit greatly from color and other novelties in the reading passages. Teachers should consider coloring every topic sentence in paragraphs for students with reading disabilities.

7. *Use chanting, rhymes, and music to increase novelty in learning.* Because music and rhythms are processed in a different area of the brain from language, pairing facts to be learned to a musical melody or a rhythmic chant can enhance memory for reading comprehension. Most adults, upon reflection, can remember the song that was frequently used to memorize the ABCs—the tune to *Twinkle, Twinkle, Little Star*—and many students used that same song for other memory tasks in the higher grades (e.g., multiplication or division math facts).

8. *Increase your wait time.* Different brains process information at different rates, independent of intelligence. Of course, elementary students have learned that teachers often will call on the first one or two students who raise their hand after the teacher has asked a question in class. On average, teachers will wait only two or three seconds before calling on someone for an answer, and this period of time between the question and when an answer is called for is defined as "wait time" (Sousa, 2001). However, the brain research has demonstrated the importance of waiting for a few seconds (perhaps seven to ten seconds) after asking a question, prior to calling on someone for the answer. This increased wait time gives students with reading disabilities, many of whom process information more slowly and deliberately, a longer period of time to consider their answer and hopefully raise their hand to volunteer a response to the teacher's question.

(Continued)

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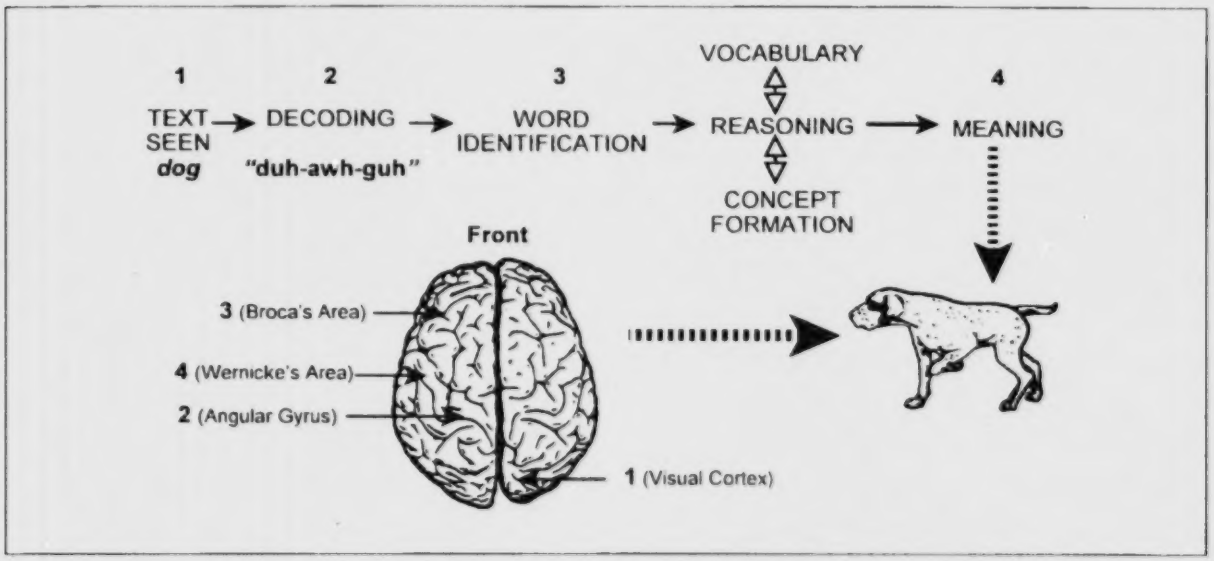
Figure 1.1 Sousa's Model of Reading

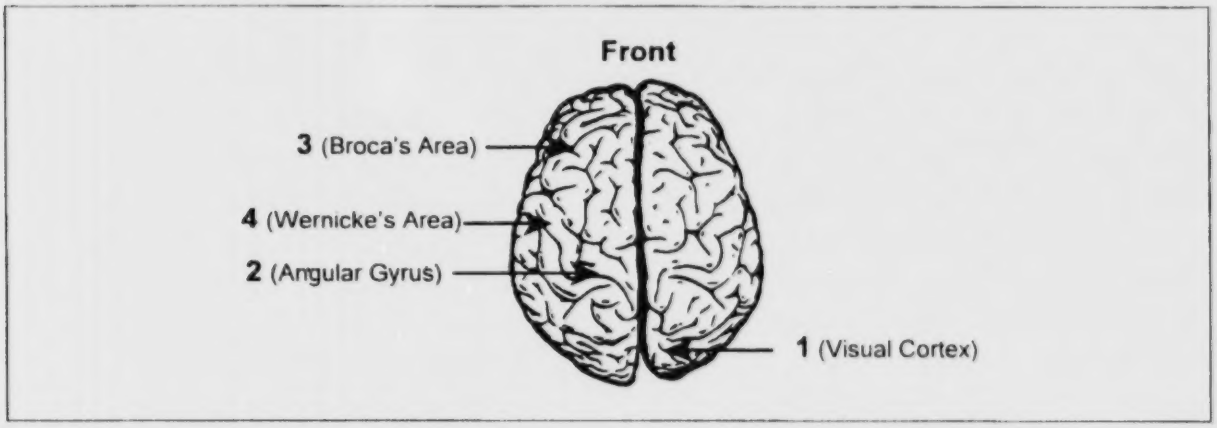


SOURCE: Sousa (2001)

to understand some reading difficulties for students with learning difficulties. As noted previously, reading is a very complex process. We believe that reading instructional strategies for students with learning difficulties should be presented within the context of this broader emphasis on brain compatible instruction. Further, Sousa's model of the reading brain can provide teachers with numerous insights for instruction, as well as a guide for selection of strategies and tactics for students with reading problems who may demonstrate different instructional needs within the class. Sousa (2001) presented this model in his work, *How the Special Needs Brain Learns*—a work that concentrates on students with learning disabilities and other learning difficulties. Within Sousa's model of the reading brain, four areas of the brain, working simultaneously, seem to be most heavily involved in reading: the visual cortex, Wernicke's area, the angular gyrus, and Broca's area (Sousa, 2001).

Beginning on the left of the model of the reading brain (see Figure 1.1) the brain perceived the word *dog* via the visual cortex, which is located at the rear of the brain—the actual brain areas are shown on the sketch of the brain below, which presents the left hemisphere of the brain. The visual stimuli *dog* is immediately transferred to several parts of the brain simultaneously. These include Wernicke's area, which traditionally has been associated with various types of language functions including auditory processing and comprehension (see Joseph et al., 2001; Sousa, 2001), as well as the angular gyrus, which has been proposed as the primary location for written language (Joseph et al., 2001). Some believe that the

Figure 1.2 The Brain



SOURCE: Sousa (2001)

angular gyrus is involved in this process in order to provide insight into what letters would be used to represent the specific sounds noted by Wernicke's area. Notice that, from the outset, several areas of the brain are heavily involved in the process of reading—the process of translating graphemes (letters on the page) into phonemes (sounds). Even when a student is reading silently, this translation into letter sounds takes place in the brain during the initial stages of reading, and mistranslation can take place throughout this system, leading to reading errors.

Next, Broca's area becomes involved in the translation of the sounds into meaningful language. Broca's area has been associated with not only language, but also grammar and syntax, so while Broca's area is involved in the linguistic aspects of reading a one-word stimulus such as *dog*, it is also searching for and identifying meanings for this word, as well as relationships and meanings that relate this word to other previously read words. Thus, Broca's area is believed to be the language area in which meaning is attached to the stimulus word, *dog*.

Of course, one must realize that while these four major areas of the brain are involved in noting the word, decoding the word by sounding it out, and attaching meaning to the word, the eyes and brain continue to scan the page for other words to begin the process all over again. Thus, this word reading process is repeated many times each minute when a student reads, and often the eyes and visual cortex are scanning a word prior to the association of meaning with words read previously. Therefore, the timing of these mental processes becomes involved in reading, and the process becomes even more complex. In fact, with only one or two misread letters or words, the reading process can become very confusing.

REFLECTIVE EXERCISE 1.4
TEACHING STUDENTS ABOUT THEIR BRAINS

Prigge (2002) suggested that teachers should teach students with learning difficulties about their brains. For example, even young children can be taught the importance of water, appropriate sleep, appropriate diet, and so on, whereas older children can be taught to informally assess their own learning styles and preferences. Knowledge of one's learning styles and preferences can assist students with learning difficulties in understanding how they should study textual material or prepare for exams.

As a guide for instruction about the brain, the 10 tactics for brain compatible classrooms could be used initially. Also, many interesting Internet research possibilities could be explored. The Web site at www.brainconnection.com, for example, provides a series of brain diagrams which can be used as worksheets for identifying various parts of the brain. As an interesting activity, you may wish to develop several lesson plans for instruction on how the brain thinks (or reads) based on this information, Sousa's model of the reading brain, and the sample worksheets at the Web site above.

For students who manifest reading difficulties, reading problems can occur at any point in this highly interactive reading process (Sousa, 2001). Perhaps because of quick scanning, a child thinks he or she sees the word *bale* instead of the word *tale* in a sentence—the visual cortex has thus introduced an error into this complex process that will, in all probability, lead to a lack of comprehension on the other end. Alternatively, either Wernicke's area or Broca's area could introduce the error with any word read, which will lead to comprehension problems in the final reading of the text.

With this level of reading complexity in mind, this book will follow the basic processes noted above, emphasizing specific instructional tactics that may be associated with each major area. First, reading strategies will be presented that assist students in mastering the decoding–auditory processing skills which emerge somewhat early in this reading sequence. Specifically, Chapters 2 and 3 present information on phoneme-based instruction and phonics, respectively, two sets of skills that are heavily involved in auditory processing, which takes place in Wernicke's area and the angular gyrus, as noted above. Chapters 4, 5, and 6 present information on vocabulary development, reading fluency, and reading comprehension during reading instruction in the lower grades, and reading comprehension in elementary and middle grades. This comprehension emphasis corresponds to the later involvement of

Broca's area in the reading process. Thus, this overall model of the reading brain will serve as an organizer for the remainder of this book of reading strategies in various reading areas.

WHAT THE BRAIN RESEARCH ON READING HAS FOUND

With this model of the reading brain as a basis, several specific results from the emerging brain research on reading can assist teachers in understanding the reading performance of students with reading problems in the lower and middle grades. Also, this brief list of research results emphasizes the contributions of the brain research on reading instruction. These research conclusions by no means represent the extent of understanding from research on the reading brain, but these results are interesting and some may surprise you. Further, these research findings can inform teachers on how we should manage students with reading problems in our classes.

Reading Problems May Be Speech–Timing Problems

Brain research on students with reading problems and learning disabilities has shown that a dysfunction in how the brain processes information concerning letter sounds or speech sounds may lead to reading problems. In fact, when one group of researchers used a computer program to pronounce words more slowly than normal, some children with reading problems were able to advance their reading levels by two years in only four weeks of training (Tallal et al., 1996). Thus, their reading problem was a brain-based, language timing problem—they needed to hear reading more slowly than usual in order to process the information, even when they themselves were doing the reading. This would seem to implicate Wernicke's area—the auditory processing area—in the reading problems of some students with reading difficulties.

Poor Readers Often Are Trying Harder

Have we, as teachers, ever told a student to "try harder" in reading? While encouraging students in their reading efforts is essential, teachers of students with learning difficulties may wish to find another phrase to use, based on recent brain research. Brain scans have shown more frontal lobe activity in the brains of poor readers than in the brains of good readers. In fact, these data show that poor readers are putting forth additional effort—indeed more effort than good readers—in decoding. For example, many students with reading problems subvocalize (e.g., softly pronounce) what they read in order to interpret words correctly

(Sousa, 2001; Tallal et al., 1996). This work requires extra brain processing and can be shown using fMRI technology among many students with reading difficulties. Thus, in many cases, because of the difficulty of the reading material, poor readers are reading harder than are good readers who are reading the same material.

This sheds new light on the admonishment from teachers or parents to "try harder" for students with reading problems. For poor readers, the automaticity that good readers have developed is not yet present; consequently, these poor readers are, in many cases, already reading harder.

A further note is required on this research result. Because of this lack of automaticity with the alphabetic code, the reading problems of many poor readers tend to grow and compound. Thus, students who have not developed automaticity with letters and letter sounds will experience increasing problems in reading throughout the elementary and middle school years.

Letters Can Be Confused Because They Sound Alike

The brain essentially pronounces phonemes associated with specific letters during the early decoding process—transferring phonemes into graphemes—and this process, if not successful, can result in reading problems. While early research in dyslexia concentrated on letter confusion as a visual processing problem (e.g., confusing *b* and *d* because these letters look similar), recent research in dyslexia has implicated the angular gyrus, the location for interpreting letters which sound alike, as the basis for some letter confusion problems. In addition to looking alike, the letters *b* and *d* also sound alike, and if the angular gyrus mistranslates one of these letters in a particular word or text, a reading error will occur. Thus, a problem of the dyslexic reader, which previously was viewed as a visual discrimination problem involving these two mirror image letters, may in fact be an auditory discrimination problem based on the similar sounds they represent. In that context, the term dyslexia takes on an entirely new meaning—a language-based reading problem!

Nonlinguistic Deficits May Cause Some Reading Problems

We like to think that most reading problems are caused by language deficits, and language problems do result in reading problems. However, we now know that nonlanguage problems (i.e., nonlinguistic deficits) can also cause reading problems. Wright, Bowen, and Zecker (2000) suggest that auditory problems in the perception of sequential sounds can lead to reading problems. In effect, while reading a passage, the child may be subvocalizing and if certain sounds are held in auditory memory too long,

the letters those sounds bring to mind may actually be superimposed over other letters, resulting in considerable reading confusion. This would represent a problem in Wernicke's area involving auditory processing. Further, this type of reading problem will create numerous errors in reading.

These findings represent only a few of the notable research results from the brain research on reading and are presented only to show the types of insight that can be derived from this powerful new research technology. In fact, various authors have identified other reading problems that have been identified using the newly developed fMRI technologies (Joseph et al., 2001; Leonard, 2001; Tallal et al., 1996), and this area of research will continue to lend insight into the reading problems noted among students with reading difficulty.

CONCLUSION

This chapter has presented a series of research-based conclusions on the development of reading, as well as two broad areas within which reading instructional strategies may be reviewed: early literacy instruction and brain compatible instruction. A series of general research results has been presented in each of those areas, since those results provide a further framework for the strategies discussed throughout this book. Finally, the model of the reading brain, which was proposed and developed by David Sousa (2001), will serve as our organizer for the remainder of the book.

WHAT'S NEXT?

In the next chapter, you will find a series of instructional strategies to enhance phoneme awareness and phoneme manipulation skills among students with reading difficulties. These skills are essential for the effective auditory processing of letter sounds, which takes place in Wernicke's area of the brain. Further, these skills also serve as a basis for all subsequent reading.

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2

Phonemic Instruction

The Critical Emphasis in Reading and Literacy

Strategies Presented in This Chapter Include

- ✔ Ten Tactics for Teaching Basic Phonological and Phonemic Instruction
- ✔ Lindamood-Bell Phonemic Programs
- ✔ Fast ForWord
- ✔ A Phonemic Segmentation Activity
- ✔ A Syllable Blending Game
- ✔ Phonemic Substitution Strategy
- ✔ The Guess-the-Word Blending Game
- ✔ A Change-the-Letter Game

PHONOLOGICAL INSTRUCTION AND PHONEMIC INSTRUCTION

Phonological instruction involves manipulation of the sounds in language and manipulation of the letters that represent the sounds in language. As discussed in Chapter 1, the emerging emphasis on early literacy for students with learning difficulties has been tied heavily to phonological

instruction, and this level of reading instruction addresses several of the initial brain processes in reading—the discrimination of speech sounds, the association of phonemes and graphemes involving both visual and language processing areas of the brain, and the manipulation of the sounds that form the basis of language. Thus, the visual cortex (which visually interprets the letters on the page), together with Wernicke's area (the brain area that is responsible for auditory discrimination), are both involved in—and activated by—effective phonological instruction. First, some general definitions and concepts are presented, and then a variety of instructional strategies and tactics for phonological instruction are described.

Misunderstandings About Phonological Instruction

There are three terms that are often confused—indeed some teachers mistakenly use these terms interchangeably. The terms are phonics, phonemic instruction, and phonological instruction (National Institute of Child Health and Development [NICHD], 2000). In order to truly understand the process of learning to read, we need to refine our understanding of the relationship among these three discrete emphases in early literacy instruction.

Phonics is the mapping of letters to speech sounds or phonemes. Until very recently, perhaps 5 or 10 years ago, teachers were trained to begin reading instruction with instruction in phonics—that is, instruction in reading began with instruction in letters and letter sounds and thus involved the mapping of individual sounds to specific letters in our alphabet. However, this instructional emphasis presented some degree of difficulty for many children with learning difficulties, since some students did not have the sound discrimination skills that would allow them to detect differences in speech sounds. For example, distinguishing the differences in the initial sounds between the following paired words, when spoken, would represent a problem in the auditory discrimination of students with reading problems and thus may not involve letter recognition at all. Needless to say, this situation could be quite problematic in early reading instruction for a child with reading problems. Note that only the initial phoneme in the following words changes in each pair.

B/i/g	H/a/t	S/u/n
W/i/g	B/a/t	F/u/n

If students with early reading problems cannot detect such initial sound differences, it is extremely difficult to teach them to read these

words. In other words, it is quite difficult to teach which sounds are represented by which letters until and unless some prerequisite sound discrimination skills are present, and for many young students with reading problems this deficit in phoneme detection is noted. These deficits result in a need to specifically teach sound differences, and this emphasis on detection and manipulation of discrete speech sounds is referred to as phonemic instruction. As you will recall from Chapter 1, phonemes are the smallest, most discrete sounds in our language that can change the meaning of a word. Thus, phonemic instruction involves detecting and manipulating the smallest sounds in our language that can change meaning, independent of instruction on letters and letter shapes.

Only a few years ago, teachers began to understand that phonemic instruction had to precede phonics instruction for many children with learning difficulties in order for phonics instruction to proceed at a reasonable pace. In fact, teachers often find that students who succeed in phonics-based reading programs during the early grades without specific instruction in phonemes come from language-rich home environments in which phonemic instruction has already taken place informally. However, children with reading problems—Sousa (2001) suggests perhaps as many as 30% of all children—need specific instruction in phonemes, either prior to or coupled with instruction in phonics.

From the perspective of brain research, this sound discrimination weakness would seem to represent a weakness in Wernicke's area of the brain—the area that is responsible for auditory discrimination (Sousa, 2001). For example, while there are 41 (or 44) phonemes in our language, there are only 26 graphemes (letters) that must be used in combination to represent these phonemes. Again, there is no one-to-one correspondence between phonemes and graphemes, and students cannot proceed successfully with phonics instruction unless and until they can detect differences in speech sounds or phonemes (NICHD, 2000). Resulting from this research, the newly emerging emphasis in early literacy involves an extensive emphasis on phonemic instruction, since a strong basis here facilitates reading instruction throughout the school years.

Phonemic Instruction Versus Phonological Instruction

In addition to the distinction between phonemic instruction and phonics, teachers need to understand that phonemic instruction and phonological instruction are two different things (NICHD, 2000). Whereas phonemic instruction involves instruction in awareness and manipulation of speech sounds, *phonological instruction* is a much broader

concept that involves not only speech sounds, but also the identification and manipulation of syllables or whole words in spoken form. Thus, much work in early reading may be considered phonological instruction, whereas phonemic instruction is limited to manipulation of discrete phonemes.

PHONEMIC AWARENESS OR PHONEMIC MANIPULATION

Developing Terminology

Within the past decade research has documented that skills in phonemic manipulation are critical components of subsequent reading and language arts skills (Bos, Mather, Silver-Pacuilla, & Narr, 2000; Chard & Dickson, 1999; Kameenui, Carnine, Dixon, Simmons, & Coyne, 2002). Further, a deficit in phonemic manipulation skill has been identified as a primary causal factor for learning disabilities among many students experiencing reading problems (Kameenui et al., 2002; Moats & Lyon, 1993). Recently, a general consensus emerged in which students with learning disabilities demonstrate an early inability to manipulate phonemes and this language-based inability seems to be the primary cause of subsequent learning disabilities in a wide variety of areas (Moats & Lyon, 1993). From this perspective, one easily can see the critical need for instruction in phonemes for many students with reading problems.

Initially some theorists used the term *phonemic awareness* to represent a child's ability to detect different phonemes, but it quickly became apparent that children needed to do more than merely become aware of the different sounds that make up our language. Rather, skills in phonemic detection, phonemic blending, or phonemic segmentation (i.e., in taking apart words to isolate specific phonemes) are all a part of phonemic instruction. The term *phonemic manipulation* recently has been used to represent this array of skills.

Additional new terminology now is used for literacy instruction for young children. *Onsets* and *rimes* are parts of spoken language that are smaller than syllables but larger than phonemes (NICHD, 2000). An *onset* is the initial consonant sound of a syllable (e.g., the /p/ sound in the word *pan*). A *rime* is the part of a syllable that includes the vowel and everything that follows (e.g., the /a/n/ sounds in the word *pan*). These terms are used quite extensively in phonological instruction and subsequent phonics instruction, and teachers may need to become familiar with this emerging terminology.

Teaching Tip 2.1

A Hierarchy of 10 Phonemic Manipulation Skills

1. Detecting rhyming sounds
2. Recognizing the same initial sound in words
3. Isolating initial sounds
4. Categorizing onsets and rimes
5. Isolating middle and ending sounds
6. Blending sounds into words
7. Segmenting or dividing sounds within words
8. Phoneme addition
9. Phoneme deletion
10. Phoneme substitution

REFLECTIVE EXERCISE 2.1
RESEARCH REVIEW ON PHONEMIC INSTRUCTION

The research on phonemic instruction has been summarized by Smith, Simmons, and Kameenui (1995) in a technical report that you may wish to review at http://idea.uoregon.edu/~ncite/documents/techrep/reading.html

The report is titled *Phonological Awareness: Curricular and Instructional Implications for Diverse Learners.* While this report is somewhat dated, there is a strong emphasis on the converging sense that phoneme-based instruction is an essential skill in reading.

A Hierarchy of Phonological Skills

Instruction on phonological manipulation skills typically proceeds in a predictable, hierarchal fashion (Edelen-Smith, 1997; Kameenui et al., 2002; NICHD, 2000). For example, theorists suggest that detecting similar sounds in the middle and at the end of words (i.e., rhyming) is a phonological skill that precedes detecting different initial sounds (i.e., the difference between the first sound and the rhyme sound in /c/a/t/ versus /h/a/t/). Each of these skills precedes the child's ability to break up a word into component sounds (typically referred to as *segmentation*) or to substitute one phoneme for another. This continuum of skills varies somewhat from one researcher to another, but the 10 phonological manipulation skills presented in Teaching Tip 2.1 represent this general hierarchal concept.

Teaching Tip 2.2

Ten Tactics for Basic Phonological and Phonemic Instruction

Tactics for Detecting Rhyming Sounds

1. Ask students to raise their hand when they hear a pair of rhyming words as the teacher says various word pairs together.

2. Pair students up, and when one student says a word, his or her partner is required to say a rhyming word. Then the second student picks a word and the first partner must say a rhyming word.

3. Ask students to identify rhyming words they hear in a song or a poem in class.

Tactics for Recognizing the Same Initial Sound in Words

1. Ask students to raise their hand (or stand up—some visible class signal) when they hear two words that begin with the same sound in a one-sentence passage. The teacher should read a story passage and pause briefly at the end of each sentence to allow children the time to consider each word in the sentence.

2. Students may be requested to provide another word that has the same initial sound as the word spoken by the teacher or a partner.

3. Divide the class into teams, with each team including the children that sit in one row of desks. After the teacher reads a sentence, call on students in one team to give the initial sound in each word sequentially. For example, after reading the sentence, "The ball rolled under the large truck on the highway," the first student would be expected to give the initial sound in the word *the:* the /t/h/ consonant blend. The child in the second seat would need to give the initial sound in the word *ball,* and so on. For each initial sound given correctly, the team earns one point. After completing a sentence with students in one row, Team 2 (or the students in the next row) is given another sentence. Depending on the grade level, teachers may wish to write the sentence on the dry-erase board to help students with poor memory skills.

A Tactic for Isolating Initial Sounds

Students should be required to isolate phonemic sounds, particularly at the beginning of syllables and words. For example, teachers should stress letter sounds in simple reading passages by asking questions about phoneme sounds:

"What is the first sound in /b/a/l/l/?"
"Can someone give me another word with the same first sound?"

(Continued)

Teaching Tip 2.2 (Continued)

A Tactic for Categorizing Onsets and Rimes

The teacher should verbally present sets of three or four words in which one or more of the words do not fit or sound different. Word sets such as the following would be a good choice.

bat	bill
hat	pan
ham	still
cat	pill

In the first set of words, the word *ham* sounds different, whereas in the second set the word *pan* is different.

Tactics for Isolating Middle and Ending Sounds

1. Students should be required to identify middle and ending sounds in words. Most of the activities that were used above in recognizing the same initial sound may be used as instructional tasks for middle and ending sounds in words. Asking questions about middle and ending sounds in any reading passage is also a good teaching technique (e.g., "What is the last sound in *house?*").

2. When the teacher comes to a new vocabulary word in the reading, he or she should pause a moment and discuss the sounds in the word.

SOURCE: These ideas and activities came from "Phonological awareness: Instructional and assessment guidelines" by D. J. Chard and S. V. Dickson (1999), in *Intervention in School and Clinic, 34*, pp. 261–270, and from "How now brown cow: Phoneme awareness activities for collaborative classrooms" by P.J. Edelen-Smith (1997) in *Intervention in School and Clinic, 33*, pp. 102–111, by ProEd, Inc. Reprinted with permission.

Of course, a variety of instructional activities may be used to teach these skills, and most teachers seem to prefer some type of gaming or a fun, classwide instructional exercise (Chard & Dickson, 1999; Edelen-Smith, 1997). Teaching Tip 2.2 presents a variety of ideas from a number of sources (Bender, 2002; Chard & Dickson, 1999; Edelen-Smith, 1997) that teachers may find useful in teaching some of the early phonemic awareness and manipulation skills to young readers.

Advanced Phonological Manipulation Skills

The more complex phonological manipulation skills would include many of the skills listed in the 10 phonemic manipulation skills above. These are blending sounds into words, segmenting or dividing sounds

within words, phoneme addition, phoneme deletion, and phoneme substitution. In general, these skills are founded on the prerequisite skills which comprise the first five skills of the hierarchy. Further, for students who have not mastered phonemic awareness and manipulation skills, even as late as elementary grades and middle school, this instruction must precede higher level instruction in reading (Kameenui et al., 2002).

Many students master phonological and phonemic manipulation skills prior to beginning school and may not need specific instruction in phonemic manipulation—rather, those students should move directly into phonics. Estimates of the number of children who have problems manipulating phonemes range from 10 to 30% of the kindergarten and first-grade population. However, even for the students who need specific instruction in phonemes, not all of the skills in the hierarchy above should be offered. The report of the National Reading Panel (NICHD, 2001) cautioned teachers against attempting to offer specific instruction in all 10 skills in the hierarchy. Rather, the research has shown that offering instruction for children on only one or two of the several skills in the hierarchy is more effective than attempting to teach all these skills. When instruction is offered to students with early reading problems, teachers should generally provide instruction at the higher end of the skill hierarchy, unless the child is functioning at a very low reading level. If the child is functioning at a low level, instruction should be provided on the first five skills in the hierarchy, and for those students with reading problems the tactics described in Teaching Tip 2.2 may be used.

With these concerns noted, a number of advanced instructional strategies for teaching phonological and phonemic manipulation are presented below. Several of these ideas were adapted from Chard and Dickson (1999), while others are presented for the first time. Each of these ideas is presented as a lesson plan format (i.e., an objective is listed, as are the necessary materials and a description of the activity), which may be implemented easily in most elementary classes.

REFLECTIVE EXERCISE 2.2
ADAPTATION OF THESE ACTIVITIES

While the activities in Teaching Tip 2.3 range across the early grade levels, teachers often can adapt various instructional ideas for different grades. Select two of the activities above and consider how you would adapt these for the students with reading difficulties in your classroom. For teachers in Grades 4 through 7, perhaps more complex word lists would be one adaptation that could make the Phonological Rhyme Game more appropriate for your grade level. Make some notes on these lesson plans and consider using one or more of these activities in your reading program this year.

Teaching Tip 2.3

Advanced Phonological Instructional Lesson Plans

A Syllable Blending Game

Type of Activity

This is a good activity for either the entire class or for smaller instructional groups.

Objective

Students will blend and identify a word that is stretched into component sounds.

Materials Needed

List of 20 to 30 multisyllable words.

Activity

The teacher should identify two teams in the class and have each team number its members. Next, the teacher will call out words one syllable at a time for the first student in Team 1 and have that student "put the word together and say the whole word." The team gets two points if that student can put the word together correctly and then pronounce the word. If the student cannot, or tries and fails in the correct pronunciation, the other team members can help, and if the team subsequently gets the word correct, the team is awarded one point. Call out the syllables in the next word for the first student in Team 2 and then return to Team 1 for the next word.

To initiate this exercise the teacher may say something like, "What word do you have if you put the following sounds together?"

HO - may - ker	*Homemaker*
AN - ten - a	*Antenna*
LET - er	*Letter*
BOT - le	*Bottle*

The Guess-the-Word Blending Game

Type of Activity

This works best as a small group activity in either the inclusive class or a special education class.

Objective

Students will blend and identify a word that is stretched out into component sounds. This game was developed by Chard and Dickson (1999).

Materials Needed

Picture cards of objects that students are likely to recognize such as sun, bell, fan, flag, snake, tree, book, cup, clock, plane.

(Continued)

Teaching Tip 2.3 (Continued)

Activity

Place a small number of picture cards before the children. Tell them you are going to say a word using "snail talk"—a slow way of saying words (e.g., fffff llllll aaaaa ggggg). They have to look at the pictures and guess what the snail is saying. It is important to have the children guess the answer in their head so that everyone gets an opportunity to try it before hearing other answers. Alternate between having one child identify the word and having all children say the word aloud in chorus in order to keep the children engaged.

A Phonemic Segmentation Instructional Strategy

Type of Activity

This works best as a small group activity since certain aspects of this activity (e.g., hand clapping) can get quite loud in a whole class setting. This may be used in either the inclusive class or a special education setting.

Objective

Students will be able to segment various parts of oral language. This game was developed by Chard and Dickson (1999).

Materials Needed

List of brief phrases or poems children would know (e.g., "I scream. You scream. We all scream for ice cream" or "Ring around the rosy").

Activities

(a) Early instruction involves teaching the children to segment sentences into individual words. Have the children clap hands with each individual word.
(b) As children advance, teach them to segment words into syllables. You may wish to start with children's names (Al-ex-an-der, Ra-chel). Have the groups state the syllables together while clapping hands in rhythm—the rhythmic aspect of this work keeps the children pronouncing the syllables together.
(c) When children have learned to remove the first phoneme from a word, teach them to segment short words into individual phonemes (s-u-n, s-t-o-p).

The Change-the-Letter Game

Type of Activity

This activity works best in a group but can also be used when a teacher and student are working one-on-one or in a peer buddy or pair learning situation. This can be a loud activity, so using it in an inclusive class may present problems if other students are doing other activities.

(Continued)

Teaching Tip 2.3 (Continued)

Objective

Students will segment various parts of oral language. This game was developed by Chard and Dickson (1999).

Materials Needed

List of word cards, each of which presents a simple noun with three letters and a picture of that object (consonant–vowel–consonant words; e.g., bat, cup, hat, ham).

Activities

"Students, Mr. Sound will show you a word and then change the first letter of the word." Show a picture of a bat. Say this word together. (Students say *bat*.) "Mr. Sound wants to change the first sound to an /h/" (teacher says the letter sound for *h* and not the letter name). "If Mr. Sound changes that sound, what would be the matching picture?" Encourage each student to decide on the answer prior to calling on a student for the answer.

A Phoneme Substitution Activity

Type of Activity

This is appropriate for whole class or small group instruction.

Objective

Students will correctly say a word after substituting one phoneme for another.

Materials Needed

List of multisyllable words and a list of letters to use as initial consonants.

Activity

The teacher should identify two teams in the class and have each team number its members. Call out a word and suggest a substitute for the initial consonant sound, and then have the first child in Team 1 "put the word together and say the whole word." The team gets two points if that student can put the word together correctly. If he or she cannot, the other team members can help. If the team gets the word correct, the team is awarded one point. Call out the next word and substitute the consonant sound for the first student in Team 2. Return to Team 1 for the next word.

A Phonological Rhyme Game

Type of Activity

Small group or whole class instruction.

(Continued)

Teaching Tip 2.3 (Continued)

Objective

Students will identify why words rhyme, based on either a syllable rhyming or on only a few letters at the end of a syllable rhyming.

Materials Needed

Several sets of single and multisyllable rhyming words.

Activity

Explain to your students that rhymes may or may not involve a set of letters that constitute an entire syllable. Whereas some words rhyme because of only a vowel and ending consonant, other words rhyme because the entire last syllable is the same. When presenting words verbally to your students, request that they tell you the difference; i.e., is the entire last syllable the same or merely the last few sounds in the word? Here are some words you may use to get started; in each column below, the words rhyme—see if your students can tell you why.

rocket	*pan*	*bat*	*bottle*
pocket	*can*	*hat*	*myrtle*
locket	*tan*	*cat*	*humble*

SOURCE: These ideas and activities came from "Phonological awareness: Instructional and assessment guidelines" by D. J. Chard and S. V. Dickson (1999), in *Intervention in School and Clinic,* 34, pp. 261–270, and from "How now brown cow: Phoneme awareness activities for collaborative classrooms" by P.J. Edelen-Smith (1997) in *Intervention in School and Clinic,* 33, pp. 102–111, by ProEd, Inc. Reprinted with permission.

Instructional Planning for Phonological and Phonemic Instruction

Kameenui and his coworkers (2002) combined the idea of the hierarchy of phonological skills with the instructional concept of scaffolding. As described previously, scaffolding involves providing differential support to students, based on their individual needs (Larkin, 2001), and sequentially withdrawing the support as appropriate until the students can complete the task unassisted. Kameenui and his coworkers recommended a series of instructional scaffolds designed to support students in learning various complex phonemic skills for the latter portion of the hierarchy. Since these activities involve presenting actual letters to students, as well as the sounds of the letters, these activities may be considered a bridge between phonological instruction and subsequent instruction in phonics.

Scaffold 1—Model	The teacher says the sounds in a word while touching each letter: "My turn to sound out this word. When I touch a letter, I'll say its sound. I'll keep saying the sound until I touch the next letter."
Scaffold 2—Over Sound Out	The teacher touches under each letter while students say each sound: "Your turn to sound out this word. When I touch a letter, you say its sound. Keep saying the sound until I touch the next letter."
Scaffold 3—Internal Sound Out	The teacher touches under each letter while students say each sound in their head: "You are going to read this word without saying the sounds out loud. As I point to the letters, sound out this word to yourself."
Scaffold 4—Whole Word Reading	The teacher points to the word and students sound it out independently: "You are going to read this word the fast way. When I point to a word, sound it out to yourself. When I signal, say the word the fast way."

Note that both the sounds and the letters are emphasized. Also, the scaffolded concept here incorporates a shift in emphasis from teacher modeling to student completion of the behavior, in four steps.

1. *Modeling:* The teacher models the sound of the word.
2. *Repetition:* The teacher says the individual sounds of the word as the student repeats these discrete sounds.
3. *Segmenting the word:* The student says the discrete sounds of the word in a segmented fashion.
4. *Blending the word:* The student says the entire word as a whole.

Should you wish to use this type of scaffold without emphasizing letters, perhaps for lower functioning students with learning difficulties in kindergarten or first grade, you could complete this entire activity using pictures of common items rather than letters. Thus, this activity would emphasize exclusively the phonemes involved and not phonics.

REFLECTIVE EXERCISE 2.3
A RHYMING ACTIVITY GAME

The goal of most Web sites is commerce in some form, but that doesn't mean that teachers cannot find assistance in various Web sites developed by publishers. With that in mind, you may wish to look at an activity called Annie's Rhyme Time on the Web site for Scholastic Educational Products (www.scholastic.com). Once at the Web site, click on "Reading Research Network," and under the "Humor" button, look for "Annie's Rhyme Time" (but do not overlook the many other resources there!).

You will find a number of options for wordplay involving rhyming words, and these activities are useful from kindergarten through Grade 8. Every elementary teacher should endeavor to make his or her class a wordplay and word-rich environment, and this can benefit many students with learning difficulties in phoneme manipulation and rhyming skills. At this Web site, Annie poses a new rhyming riddle seven days a week. Students read the riddle and then come up with a two-word answer in which both words rhyme exactly, even down to the number of syllables. Students with reading difficulties will enjoy checking the riddles daily, and students also can send in original rhyming riddles using their vocabulary words. The lesson plans on this site offer a variety of individual and group activity options, and the objectives (published on the site) facilitate use of this as a 20-minute instructional activity. These objectives also are correlated with the standards of the National Council of Teachers of English.

GUIDELINES FOR PHONEMIC INSTRUCTION

Based on the hierarchy of phonological skills, and on the accumulated research on phoneme instruction for students with learning difficulties, teachers need to remember several points or guidelines when considering a phonologically based instructional program (Edelen-Smith, 1997; NICHD, 2000). When presented with a child who demonstrates significant reading problems—including many children with learning disabilities and other reading difficulties in particular—teachers should consider phoneme-based instruction and use these general guidelines.

1. Consider the hierarchy of phonological skill. Consider the child's reading problem and the various skills within the hierarchy. Some children with reading problems can detect different phonemes but cannot blend sounds together, whereas others can blend sounds but need assistance in word segmentation. All of these skills are important for subsequent reading success. The teacher should understand which specific skills

present problems for the child. Of course, one oft-repeated truth about students with learning disabilities is that no two students demonstrate the same types of reading problems! Teachers will need to search for the specific phonemic problems shown by the individual students and tailor the instruction to those specific problems.

2. *Select only one or a few skills to teach.* Teachers should select only one, two, or three skills from the hierarchy for the child with reading difficulties to work on, bearing in mind that mastery of those skills probably will improve the child's work on the other skills as well. Activities should be fun and should seem like play rather than drill (Edelen-Smith, 1997). In fact, the classrooms of effective teachers are often word-rich environments in which wordplay (e.g., creation of puns, questions about multiple meanings) is encouraged.

3. *Consider working on phonemic skills in isolation.* Whereas some students with reading problems need specific work on phoneme detection (e.g., identification of initial onset sounds), others may need to work on phonemes in combination with phonics. The teacher must determine the appropriate level to emphasize for each student, but teachers must recognize that many students have failed in reading because we educators have moved directly into phonics without adequate preparation on phonemic manipulation as a prerequisite. Most of the games and activities described in this chapter emphasize exclusively work on phonemes and can provide a good set of strategies for students who need to work only on phonemes.

4. *Use phoneme sounds.* When doing phoneme instruction it is easy for teachers to slip into using letter names rather than sounds for the instruction, and this should be avoided (Edelen-Smith, 1997). Rather, the teacher should use the sounds of the letters for the instruction, and it may help to represent those sounds by putting the letters between slash lines or brackets in the teacher's lesson plan (e.g., the teacher should say, /H/A/T/ rather than "say *hat*").

5. *Consider the age of the child.* How old can a child with reading difficulties be, or what is the age in which teachers should stop using phonemic instruction with a particular child who has reading problems? These questions have not been adequately answered by the research (NICHD, 2000). While most of the published information on phoneme instruction described tactics for young children—generally prekindergarten up through about Grade 2 (Bos et al., 2000; Chard & Dickson, 1999; Fuchs et al., 2001; Kame'enui et al., 2002; NICHD, 2000), these sources do not address the question of a third grader or even a sixth grader who is struggling in reading. Thus, an open question remains: should phoneme-based instruction be offered in the higher grade levels?

One point may be made to address this question. A consensus has emerged that phoneme manipulation deficits may be the root cause of many learning disabilities (Kame'enui et al., 2002; Lyon & Moats, 1997; Moats & Lyon, 1993), and various researchers have indicated that these deficits—even if present in a sixth- or eighth-grade child—must be addressed in order to facilitate progress in reading (see Bender, 2002). This would suggest that phonemic instruction is very appropriate, even in the upper grades, for students who demonstrate deficits in this area.

PHONEMIC-BASED READING PROGRAMS

Although the Resources section in this book presents information on several reading programs for students with learning difficulties, we wanted to highlight several reading programs here that are based primarily on phonemic instruction. Two programs that have received wide attention are presented below: the Lindamood-Bell programs and Fast ForWord. These programs are, perhaps, the most widely used programs that address phonemic-based literacy instruction. Additional programs are reviewed in Resources.

The Lindamood-Bell Reading Programs

Nanci Bell, Pat Lindamood, and Phyllis Lindamood have authored a series of Lindamood-Bell programs designed to help students develop the sensory-cognitive processes for language and literacy skills (see www.LindamoodBell.com for products and information). These phonemic-based reading programs are well researched and quite comprehensive. The goal of the programs is to develop the processes that underlie reading, spelling, and language comprehension. The various programs have been designed for use with all students, from those with severe learning disabilities to those who are academically gifted. The Lindamood-Bell programs can be used with individuals ages five through adult. A strength of the Lindamood-Bell programs is that they provide ways to assess specific reading and phonemic-based difficulties and then provide solutions tailored toward the needs of the specific student in the specific deficit area. There are several reading programs in a variety of areas and each involves phonemic-based instruction.

The Lindamood Phoneme Sequencing (LiPS) Program is designed for students having difficulty with decoding, spelling, and speech or who lack phonemic awareness or the ability to judge sounds within words. This program presents various instructional procedures to develop the ability to identify and sequence individual sounds and the order of those sounds within words. Letters are categorized into groups with kid-friendly names for each group (e.g., some are identified as *lip poppers,* such as the /P/ sound). The instructional activities focus on the use of the lips, tongue, and mouth in pronouncing the various sounds, and this results in phonemic awareness and production of these sounds

being brought to a conscience level. Self-correction of speech sounds is also emphasized. Components of the program include the following:

- A teacher's manual
- A classroom kit (all materials needed to implement the program)
- A clinical kit (smaller version of classroom kit)
- A practice CD-ROM

The Lindamood Auditory Comprehension Test

The second program, Seeing Stars: Symbol Imagery, is designed to improve the skills of students who lack phonemic awareness and have poor sight-word vocabulary, difficulty with spelling, and poor reading fluency. This is a program that addresses the needs of students with learning difficulties at a slightly higher level than the LiPS program described earlier. Using this program will help students to establish phonological awareness and contextual fluency. Materials are designed to teach students to self-correct reading errors and improve reading fluency. Components of this program include the following:

- *Seeing Stars* teacher's manual
- My Stars words boxes
- Seeing Stars kit (all materials needed to implement the program)
- Seeing Stars decoding workbooks

In addition to the products available, extensive workshops are also offered to assist teachers in making the most of the programs. Workshops may be taken at selected locations or onsite at individual schools.

Fast ForWord: A Brain Compatible Phonemic Instruction Program in Reading

The Fast ForWord Reading Program developed by Scientific Learning Corporation (see the Web site at www.scientificlearning.com) is built upon the latest research on how the human brain learns, and it focuses on phonemic-based instruction for students with reading difficulties, over several levels of reading.

The Fast ForWord Program involves a series of comprehensive computer-driven programs that covers reading skills from preschool through the elementary grades (aspects of this program are appropriate for students with reading problems even in high school). The program must be purchased at the school level and has been criticized by some as being somewhat expensive.

In the early phoneme instructional programs for early grade students with reading difficulties, a stimuli picture is presented on the screen, and the student hears a series of phoneme sounds that represent the picture. One task involves the blending of these sounds to recognize the correct pronunciation of an entire word. Other tasks involve word

segmentation and oral reading fluency. The computer program tracks the progress of the students with reading difficulties individually and generates progress reports for the teacher. Subsequent programs present different skills in a variety of ways, most of which involve game-like formats. The Fast ForWord program also includes a series of reading instructional packages.

Basics	Intended for four- to seven-year-olds with reading problems who need to develop early reading skills such as phonemic awareness, letter naming, and letter-sound skills.
Language	Used for students with learning difficulties to develop the basic language skills that are the basis of reading, including working memory, reasoning, phoneme discrimination, and sound processing. These are weakness areas for many students with learning disabilities.
Language to Reading	Used for students to make the connection between oral and written language, including decoding, vocabulary, grammar, and beginning word recognition.
Reading	Concentrates on word recognition and fluency, advanced decoding, spelling, vocabulary, and passage comprehension.
Middle and High School	Emphasizes sustained focus and attention, listening comprehension, sequencing, and organization.

These programs have been piloted by Scientific Learning Corporation in a number of school districts, and the early research results on applications of these programs among students with learning difficulties are quite impressive. A bibliography of journal articles from this research is available at the company Web site. Many students with learning difficulties in early literacy skills have demonstrated one- to three-year gains in reading and language in just two months, based on this program, and such improvement in reading warrants considerable discussion of this innovative program. According to the literature on the Web site, the following results were obtained.

- In New York City, New York (Public School 87), students gained two to four years in reading skills in just eight weeks.
- In Tiffin, Ohio, 77% of the students in the program passed the Ohio Proficiency Test.

- In Houston Public Schools, Texas, 92% of students at-risk for reading failure at Cornelius Elementary passed the Texas statewide assessment.
- In Fort Lupton, Colorado, public schools, 50 students gained between two and two-and-a-half years in reading skills in just six weeks using Fast ForWord.

The Fast ForWord Reading Program is solidly based in highly effective software and is of further interest in this context because it does represent the merger of brain compatible instructional research, reading research, and literacy and language development research. Further, with reading gains among students with learning difficulties such as those reported above, one may well expect to hear much more about this program. Finally, because many educators anticipate that effective instruction will increasingly be based to some degree on effective software, reading programs such as this example may well represent this century's approach to reading instruction. This would mean that the current generation of educators may well see schools retire the long-practiced and venerated basal reading instructional approach.

CONCLUSION

This chapter has presented a series of instructional strategies to assist teachers in implementing phonological and phonemic instruction in the classroom. A consensus has emerged over the past decade that phonemic instruction must serve as the basis for effective reading and literacy skills for students with reading problems. With this in mind, every teacher should have a series of instructional activities and tactics which can assist students in developing this important set of skills.

WHAT'S NEXT?

While this chapter has concentrated on phonologic and phonemic manipulation instructional activities, the next step involves phoneme manipulation based on matching phonemes with letters and letter combinations. Thus, the phonics and word attack emphasis is the next step in reading mastery.

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3

Phonics and Word Attack Strategies

Strategies Presented in This Chapter Include

- ✔ Word Boxes
- ✔ Analyzing Words
- ✔ Picture Sorts
- ✔ Word Sorts
- ✔ Making Words
- ✔ Word Banks
- ✔ Word Study Notebooks

PHONICS AND THE BRAIN

Once students have mastered the phonemic awareness skills used to detect and discriminate between phonemes, they must learn the letters that are associated with those phonemes. Phonics instruction helps "beginning readers understand how letters are linked to sounds (phonemes) to form letter-sound correspondences" that are used in reading and spelling (National Institute of Child Health and Development [NICHD], 2000, p. 8). Mapping letters to phonemes involves the activation of several brain areas in the reading process including the visual cortex (to see and interpret the printed form of the letter, to "image" the shape of the letter for other brain areas, and to interact with other brain areas), Wernicke's area (to interpret the phoneme associated with the letter), and Broca's area (to seek meaning for the letter–sound set).

Students with learning difficulties in reading may have deficits in phonemic awareness and the alphabetic principle (Sousa, 2001). In other words, their brains may not understand that words consist of segmented sounds that can be connected to letters (i.e., the alphabetic principle). These students have difficulty pronouncing words, read with frequent starts and stops, and have low comprehension. Such deficits may be due to genetic and neurobiological problems in the angular gyrus or to lack of exposure to spoken language patterns and usage in preschool. Some children have dysfunction in the timing of speech sounds that makes processing those sounds difficult. Brain scans have shown that poor readers' brains show more activity during reading than the brains of good readers; thus, poor readers put forth more effort to pronounce and interpret words correctly (Merzenich et al., 1996; Tallal et al., 1996).

Sousa (2001) noted that approximately 2 to 5% of elementary-age students have dyslexia, a developmental reading disorder in which they cannot process graphic symbols. Dyslexia is not attributed to eye problems or low intelligence. Some students with dyslexia may confuse letters because they sound alike; in other words, their brains may process what is heard rather than what is seen. Brain imaging studies have shown that this decoding problem occurs in the angular gyrus, which has a significantly reduced blood flow in persons with dyslexia. Students who have difficulty decoding print to sound and sound back to print need intensive practice to establish correct phonemic connections. Other individuals with dyslexia may have a visual magnocellular deficit that may cause the visual images of letters to be held longer than usual and thus other images may be superimposed (Stein, Talcott, & Walsh, 2000). Such blurry letters make reading difficult for these individuals. Wright, Bowen, and Zecker (2000) stated that, to individuals with dyslexia, the letters on a page might overlap or appear to move.

Wright et al. (2000) reviewed research on nonlinguistic perceptual deficits that impact one's ability to be a good reader. For example, problems in the detection and discrimination of sounds presented in rapid succession are common in persons with reading and language disorders. Some persons with reading disorders may be unable to hear differences in sound frequency or to detect tones within noise. These findings indicate that auditory functions play a substantial role in reading disorders.

PHONICS INSTRUCTIONAL OPTIONS

We have just learned that students with learning difficulties in reading put a great deal of effort into making the connections of spoken language with the alphabet and with word recognition (Sousa, 2001). In addition, these learning difficulties may be manifested in different ways

or attributed to various genetic, neurobiological, or environmental factors. Although brain research has provided some interesting and meaningful findings, we still have much to learn about how the brain functions in reading and why persons with dyslexia have such reading difficulties. In the meantime, research has shown some promising practices that can help many struggling readers, including those with learning difficulties. While some debate occurred in the 1970s about the effectiveness of phonics instruction, research has answered the age-old question on the relative efficacy of whole-language versus phonics instruction in favor of phonics for almost all students. Some of the principles of whole-language instruction may be incorporated for readers at later developmental stages (Moats, 2000), but beginning readers and students with learning difficulties in reading need explicit phonemic awareness and phonics instruction.

Imaginative teachers may provide a systematic phonics approach in which phonics elements are taught explicitly in a sequential manner or they may select incidental phonics instruction in which they highlight particular phonics elements as needed. Several phonics instructional approaches include the following (NICHD, 2000):

- *Analogy phonics:* Students are taught unfamiliar words by using analogies to familiar words. For example, if students are familiar with the word *cat* and know the sound that the rime portion (*at*) of that word makes, then they should be able to read unfamiliar words from the *at* family. This is done by sounding out the onset portion of the word and blending it with the rime. Thus, the onset *b* blended with *at* becomes *bat*.

- *Analytic phonics:* Students are taught to "analyze letter-sound relations from previously learned words to avoid pronouncing sounds in isolation" (NICHD, 2000, p. 8). Thus, students learn whole word units first and then learn how to link word letters with their respective sounds.

- *Embedded phonics:* Students learn phonics when it is embedded in text reading. This approach is implicit and may rely on incidental learning.

- *Phonics through spelling:* Students are taught to spell words phonemically (i.e., dividing words into phonemes and selecting the appropriate letters for those phonemes).

- *Synthetic phonics:* Through explicit instruction, students are taught to convert letters into sounds or phonemes and blend them to form words. Thus, students first learn the sounds and then use them to create words.

A meta-analysis of research literature conducted by the National Reading Panel (NRP) found that systematic phonics instruction helped children learn to read and provided benefits for students in Grades K–6

(NICHD, 2000). Systematic synthetic phonics particularly was helpful for students with learning disabilities, low-achieving students, and students with low socioeconomic status. The NRP concluded that explicit, systematic phonics instruction is an essential component of a successful reading program, but educators should not interpret this finding as a blanket endorsement of all phonics instruction. For example, phonics programs that are too focused on the letter–sound relations without applying them to real reading situations likely are to be ineffective. Although we often hear the need for "intensive, systematic" phonics instruction, the NRP indicated that future research is needed to define this term (NICHD, p. 10). In other words, we do not have a magic formula that indicates how long single phonics sessions should last, how many letter–sound relations should be taught, and at what grade level phonics instruction should be no longer emphasized. Teachers must assess individual student needs and tailor phonics instruction to meet these needs. In addition, teachers should make sure that phonics instruction is integrated with other reading components such as phonemic awareness, fluency, and comprehension in order to create a complete reading program (NICHD, 2000).

As mentioned in Chapter 1, Cunningham and Hall developed a framework for beginning reading instruction called the Four Blocks approach, whose purpose was to meet the needs of students who had a wide range of literacy levels and to combine major approaches to reading (Cunningham, Hall, & Defee, 1998). In the Four Blocks approach, the language arts segment (typically 2 1/4 to 2 1/2 hours daily) is divided into four 30–40 minute blocks: (1) Working With Words, (2) Guided Reading, (3) Self-Selected Reading, and (4) Writing. The purpose of the Working With Words block is to help students review high-frequency words, participate in phonics-based activities, and learn strategies for decoding words and spelling. If you use a Four Blocks balanced approach to reading in your classroom, many of the activities discussed in this chapter would fit nicely into the Working With Words block. Even if you are not using the Four Blocks approach, we believe you will find the activities in this chapter of value in helping students with learning difficulties practice their decoding skills and learn appropriate strategies for decoding.

This chapter will address specific strategies tailoring developmentally appropriate instruction to increase students' word attack skills. Be sure to read or skim through all sections of this chapter because some of the strategies such as word boxes, picture sorts, word sorts, and making words activities that are introduced early on can enhance phonics and word study instruction for students at a variety of developmental stages. Examine these strategies, because they are some that we are beginning to see used more often for students with learning difficulties. (These strategies are good for all students, too!) You will find this chapter full of a number of individual student and class ready-to-use

activities and games that require little preparation, so select those that best fit your students' learning needs. Finally, be sure to read the last teaching tip at the end of the chapter about assessing the decodability of text materials.

STRATEGIES FOR DEVELOPMENTAL READING AND SPELLING STAGES

Word study must be related to students' developmental needs to be appropriate (Vacca et al., 2003). In order to determine appropriate word study activities, you will need to be familiar with your students' reading and spelling levels. Bear, Invernizzi, Templeton, and Johnson (2000) noted that individuals move along a continuum from the alphabet to pattern to meaning as they become more proficient readers and spellers.

Alphabet ——→		*Pattern* ——→		*Meaning* ——→	
Grade level	PreK–mid 1	K–mid 2	1–mid 4	3–8	5–12
Reading stage	Emergent	Beginning	Transitional	Intermediate	Advanced
Spelling stage	Emergent	Letter-name alphabetic	Within word pattern	Syllables and affixes	Derivational relations

SOURCE: Adapted from Bear et al. (2000).

Although this continuum represents the typical progression and grade levels for reading and spelling development, students with learning difficulties may progress along the continuum at a slower pace and encounter many difficulties along the way. Some of these struggling readers may appear to be stuck in one of the stages. Therefore, when planning word study instruction, teachers need to select activities that are appropriate for students' particular stages of reading and spelling development. Bear et al. (2000) noted characteristics for each of the reading and spelling stages and the corresponding reading and writing activities, as well as ideas for word study focus. This framework will provide the structure for the strategies and tactics discussed in this chapter. The first or emergent stage is mentioned here to illustrate the progression from one stage to the next. Please refer back to Chapter 2 for more information regarding emergent literacy strategies on phonemic instruction.

Once children begin leaving the emergent reading and spelling stage at approximately kindergarten to mid-first grade, they move toward the beginning reading, letter-name alphabetic spelling stage. Note that students with learning difficulties who have not had intensive phonemic instruction still may have difficulty with some of the emergent reading and spelling tasks.

1. Emergent Stage

Characteristics	*Reading and writing activities*	*Word study focus*
• Scribbles letters and numbers • Lacks word concepts • Lacks letter-sound correspondence • Pretends to read and write	• Read to students • Model writing • Encourage pretend reading and writing	• Play with speech sounds • Participate in alphabet activities • Sort pictures by beginning sound • Encourage invented spelling

SOURCE: Adapted from Bear et al. (2000).

Students focus primarily on the alphabetic principle of matching sounds to letters in the letter-name alphabetic stage of development (Bear et al., 2000). Although students in this stage experiment with invented spellings, there is an order to this experimentation. Therefore, teachers should use their students' invented spellings to design word study instruction. A predictable pattern of student development may include using beginning consonants in writing and then adding vowels in stressed syllables. Thus, the teacher should begin by focusing word study on consonants and then on short vowels as students add vowels to their writing and spelling. Next focus on long vowel patterns when students begin to use them. Keep in mind that although students follow a predictable developmental pattern, the sequence and pace may differ for individuals, particularly those with learning difficulties. The following sections offer some suggestions for sequencing word study in the letter-name alphabetic stage.

Beginning Consonant Sounds. Although there is no particular order to teach beginning sounds, start with frequently occurring initial consonants (Bear et al., 2000). Make sure to choose consonants that differ clearly in how they look and also in how they sound. Chard and Osborn (1998) suggested teaching continuous sounds such as *s*, *m*, and *f* prior to teaching stop sounds such as *b*, *k*, and *p* because the continuous sounds are easier to pronounce. A continuous sound can be said for several seconds without distorting the sound, as compared to a stop sound that can be said only for an instant (Carnine, Silbert, & Kameenui, 1997). Words beginning with a continuous sound (e.g., *sad*) are easier to sound out than words beginning with a stop sound (e.g., *pad*).

2. Letter-Name Alphabetic Stage

Characteristics (early)	*Reading and writing activities*	*Word study focus*
• Identifies beginning and ending sounds • Has basic concept of word • Reads word by word	• Read to students • Provide practice with patterned trade books, rhymes, and dictations • Provide picture labeling and journal writing activities	• Sort pictures and words by beginning sounds • Study word families containing a common vowel • Study beginning consonant blends and digraphs • Encourage invented spelling
Characteristics (late)	*Reading and writing activities*	*Word study focus*
• Spells initial and final consonants, some blends and digraphs • Spells phonetically • Omits most silent letters • Reads aloud and fingerpoints • Reads slowly word by word	• Read to students • Encourage invented spelling in independent writing, but students must be accountable for word features previously studied • Encourage more expansive writing and simple editing for high frequency words	• Sort pictures and words by short vowel word families • Sort pictures and words by short vowel sounds and CVC patterns • Begin simple sound sorts for short and long vowels • Create a word bank of up to 200 unknown words

SOURCE: Adapted from Bear et al. (2000).

Final Consonant Sounds. When students have mastered initial consonant and phonemic segmentation, they likely will use this information to help them with final consonants (Bear et al., 2000). Note that final consonants also are covered when students study word families.

Initial Consonant Digraphs and Blends. Following the study of initial consonants, students are ready to learn about initial consonant digraphs and

blends (Bear et al., 2000). Digraphs occur when two or more consonants are combined to produce a new sound. Begin with digraphs such as *ch, sh, th,* and *wh.* Then move to the three major groups of consonant blends: (a) *s*-blends, (b) *r*-blends, and (c) *l*-blends. Consonant blends are two or three consonants grouped together with each consonant retaining its own sound. The *s*-blends (*sk, sn, sm, st* etc.) are the easiest to learn. *R*-blends include *br, cr, dr, fr, gr, pr,* and *tr* while *l*-blends include *bl, cl, fl, gl, pl,* and *sl.*

Short Vowels. Word families are an easy and appealing way to introduce vowels (Bear et al., 2000). Once students are using short vowels consistently, they can compare short vowels in word sorts in which they compare the consonant–vowel–consonant (CVC) pattern using a variety of vowels. In the word family approach, students are introduced to the vowel and ending letter or letters following the vowel as a chunk or pattern (i.e., rime). The letter or letters preceding the vowel are the onset (you may wish to review the discussion of onsets and rimes in Chapter 2). Treiman (1985) found that segmenting words into onsets and rimes is an easier and more natural process for students as opposed to dividing words into individual phonemes. Bear et al. (2000) noted that it is not necessary to teach every word family thoroughly. Once students have been exposed to several word families, they probably will understand that words with the same sound likely will share the same rimes and spelling.

Once students work with word families easily and accurately, you will need to introduce short vowels in nonrhyming words that do not belong to word families (Bear et al., 2000). For example, the words *mad, flag,* and *track* do not rhyme and do not belong to the same word family. If these three words are written in onset and rime form they would appear as follows:

Onset	*Rime*
m	ad
fl	ag
tr	ack

If the same three words were presented as a CVC pattern, they would appear as

Consonant	*Vowel*	*Consonant*
m	a	d
fl	a	g
tr	a	ck

Note that the consonant letter combinations can be consonant blends (e.g., *tr*) or digraphs (e.g., *fl*).

When you introduce students to short vowel study, be sure to plan distinct contrasts such as short-*a* with short-*i* or short-*o* (Bear et al., 2000). Students are likely to confuse short-*e* with short-*a* or short-*i*. Teaching short vowels may take time and may not come easy for some students, particularly those with learning difficulties.

REFLECTIVE EXERCISE 3.1
SEQUENCE OF A DIRECT INSTRUCTION READING PROGRAM

Although the aforementioned information serves as a basic guide for sequencing word study, you still may feel like you need more guidance to help your students with learning difficulties in reading. These struggling students often can benefit from intensive direct instruction in reading (Atkinson, Wilhite, Frey, & Williams, 2002) to help them recognize and say the appropriate letter–sound correspondences that constitute words. A well-known commercial direct instruction reading program is Reading Mastery (Engelmann & Bruner, 1995). Listed below is the sequence of sounds taught in the Reading Mastery I kit. Use the guidelines for sequencing that are listed prior to this exercise to see if you can determine why the sounds are sequenced as they are in this program. Keep in mind that various commercial reading programs may use different sequencings of sounds; thus, there is not just one way of appropriate sound sequencing that teachers should follow. Instead, use the guidelines for sequencing, on the following page, to help you plan logical sound sequencing with the phonics materials or curriculum that you use.

Strategy: Word Boxes

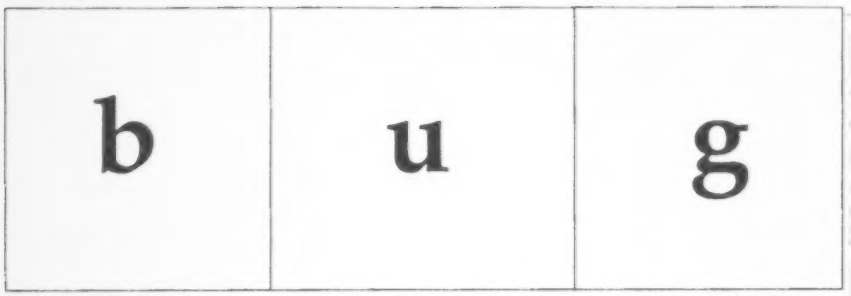
Word boxes (see Clay, 1993) are created by dividing a rectangle into the number of sections that correspond to the number of sounds heard in word (Joseph, 2002). For example, a word that has three phonemes could be represented by a rectangle divided into three sections. Thus, the word *bug* is represented in Figure 3.1.

Completing word boxes consists of three steps: (a) segmenting sounds, (b) matching letters to sounds, and (c) writing letters (Joseph, 2002). Teachers may help students to learn one step of completing word boxes over a span of several lessons by using words that are contained in students' speaking vocabulary, but that the students have not learned

Letter	*As in*	*Continuous or stop sound*
a	and	Continuous
m	mat	Continuous
s	sat	Continuous
e	eat	Continuous
r	rat	Continuous
d	dad	Stop
f	fill	Continuous
i	if	Continuous
th	this	Continuous
t	top	Stop
n	nut	Continuous
c	cat	Stop
o	ox	Continuous
a	ate	Continuous
h	his	Stop
u	under	Continuous
g	got	Stop
l	let	Continuous
w	wet	Continuous
sh	she	Continuous
i	I	Continuous
k	kiss	Stop
o	over	Continuous
v	vet	Continuous
p	pet	Stop
ch	chat	Stop
e	end	Continuous
b	boy	Stop
ing	sing	Continuous
i	ice	Continuous
y	yes	Continuous
er	teacher	Continuous
x	fox	Stop
oo	moon	Continuous
j	jet	Stop
y	my	Continuous
wh	why	Stop
qu	quit	Stop
z	zoo	Continuous
u	use	Continuous

to read. When students have mastered the three steps, then they can be combined into one lesson. Word box phonics procedures are appropriate for whole class, small group, and peer buddy sessions. Word box

Figure 3.1



activities contain some of the elements of teaching reading that Atkinson et al. (2002) suggested as important when teaching reading to students with learning disabilities: (a) integrating multisensory approaches instruction and (b) linking the teaching of reading and writing. Notice in the segmenting sounds activity that students see the letters and words (visual), hear the sounds (auditory), and touch (tactile) and move (kinesthetic) the magnetic counters to experience a multisensory approach. An additional tactile experience is included when students match the letters to sounds using magnetic letters. Kinesthetic learning and writing occurs when students write the letters in the spelling sounds segment.

Segmenting Sounds

Joseph (2002) suggested that a magnetic board, magnetic counters, and pictures representing target words could be used to help students with the segmenting sounds step. Pictures are used only if the word can be represented pictorially, as in Figure 3.2.

1. First, the teacher draws a rectangle on the magnetic board and divides the rectangle into the appropriate number of boxes for the targeted word.

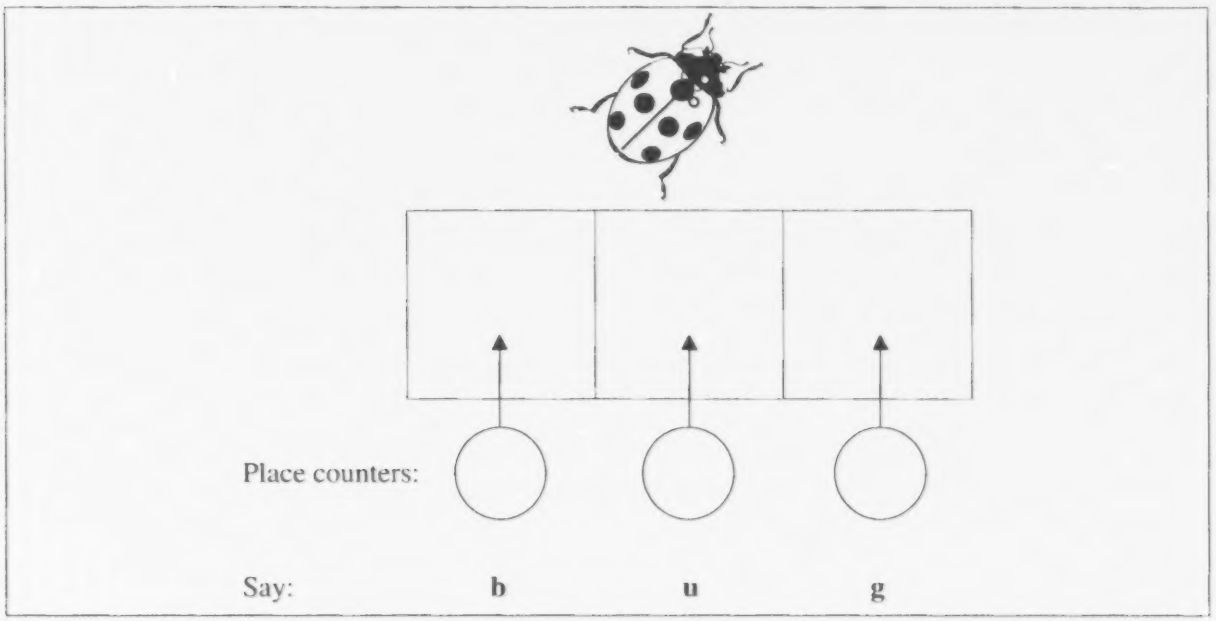
2. The students are given the magnetic counters so that one counter is placed below each divided section of the rectangle.

3. The teacher models the segmenting sounds task by saying the word slowly and placing a counter in each section of the rectangle as the sound for that section is said.

4. Students place their counters in the respective rectangle sections while the teacher says the targeted word slowly.

5. Finally, the students may articulate the targeted word while they place their counters in the respective rectangle sections.

Figure 3.2



Matching Letters to Sounds

Follow the same procedures listed in Segmenting Sounds except that students are given magnetic letters to place in the respective sections of the rectangle in place of the counters, as in Figure 3.3.

Spelling the Word

Follow the same procedure as in Matching Letters to Sounds except students write the letters in the respective sections of the rectangle as they slowly say each sound (see Figure 3.4). Erasers or tissue paper can be used if students make an error.

When students demonstrate that they understand the one-to-one correspondence between letters and sounds by writing the letters in the rectangle sections, the teacher then can begin to take away some of the scaffolding or support (see Figure 3.5; Joseph, 2002). What once were solid vertical lines dividing the rectangle into connected boxes become dotted lines. Scaffolding provides the support that students with learning difficulties need and is removed gradually as the students begin to demonstrate that they are learning the skill (Larkin, 2001).

Finally, the dotted lines are removed to leave only the rectangle in which the students write the targeted word as the teacher says it (see

Figure 3.3

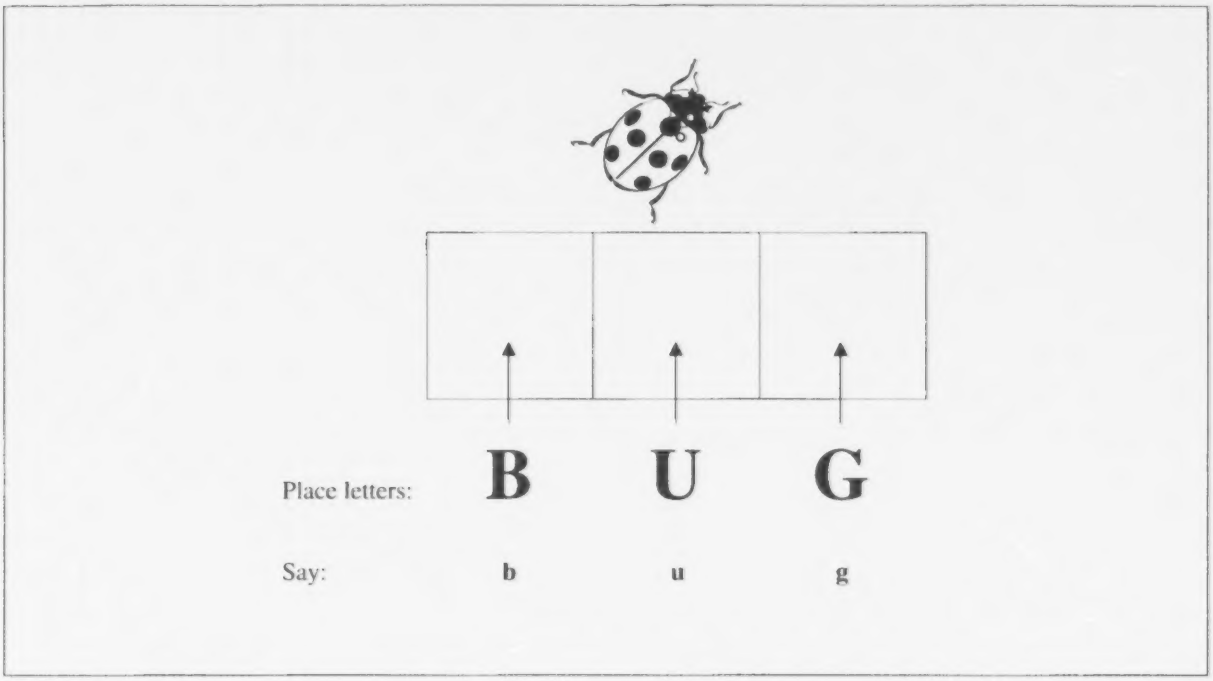


Figure 3.4

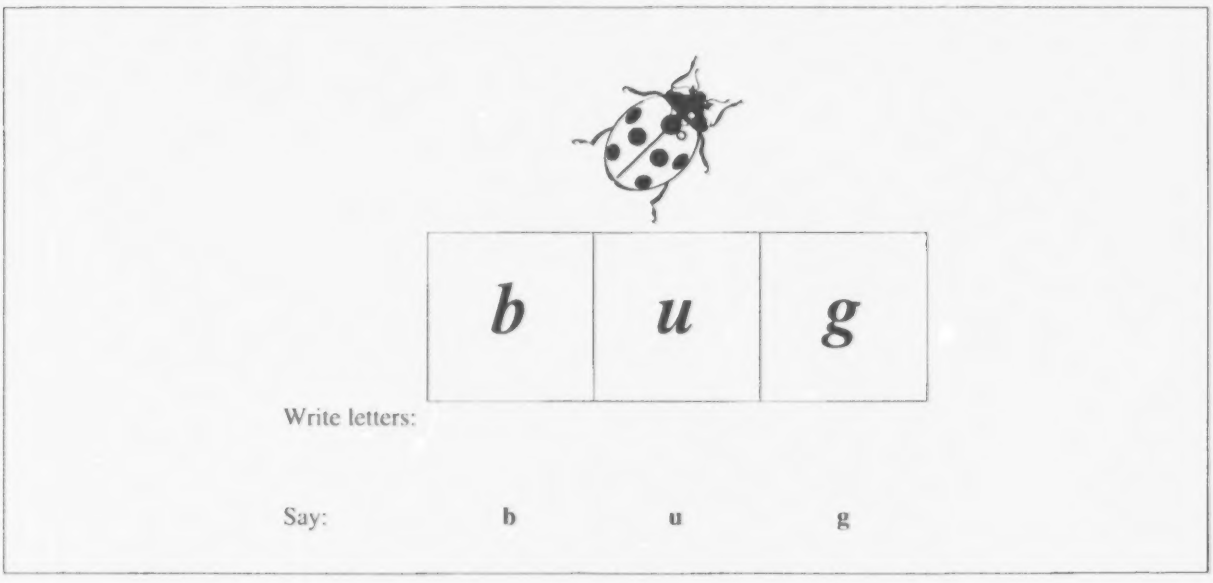


Figure 3.5

Write letters:

Say: **b** **u** **g**

Figure 3.6.). Be sure to give students as much practice time as they need with each step, prior to moving on to the next targeted word. Practicing all three steps helps students to learn the sounds in the word, match the letters to the sounds, and identify the letter sequence (i.e., spelling) of the word.

Additional ideas to help you scaffold reading instruction for students with learning difficulties when they have problems decoding a word are included in the following teaching tip.

Strategy: Picture and Word Sorts

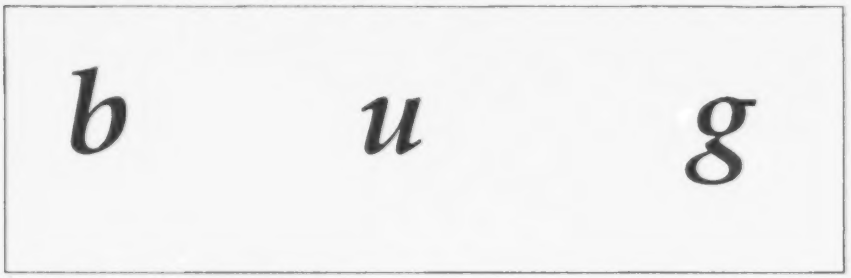
Sorting activities are excellent reinforcement activities to help students to learn word patterns and their associated sounds (Gunning, 2000). During word study activities such as sorting, students categorize words and pictures to illustrate similarities and differences among words (Bear et al., 2000). Younger students first will learn the beginning sounds of words. Later they will examine vowel patterns, syllables, and affixes. Through sorting activities, students learn to make decisions about word sounds, patterns, meaning, and use.

Picture Sorts

Picture sorts can help students to make the letter–sound connections of words (Bear et al., 2000). For example, young students or students with learning difficulties who do not know all initial consonant sounds may be asked to sort picture cards according to initial consonant sounds.

A multisensory approach enables students to see the pictures (visual), move the pictures (kinesthetic), and say the initial consonant sound and corresponding picture name as they are doing so (see Figure 3.7). *Bb* = bird,

Figure 3.6



Write letters:

Say: **b** **u** **g**

ball, bat, book, and broom. *Cc* = cat, cake, candle, car, and clock. *Dd* = deer, dinosaur, doctor, duck, and dog. Do you notice any of these words that could be problematic for some struggling readers? If students have not learned consonant blends or have difficulty saying stop sounds, then *br*oom and *cl*ock may be problems. Likewise, the words beginning with *d* may be more difficult for students who have trouble with stop sounds. Be aware of potential problems such as these when selecting pictures and words for sorts. Be sure to provide students with learning difficulties the support they need to work successfully with these kinds of challenging tasks.

Several important differences exist between picture sorting and commercial phonics programs (Bear et al., 2000).

REFLECTIVE EXERCISE 3.2
IF YOU ARE USING A COMMERCIAL PHONICS PROGRAM, IS IT WORKING OR COULD IT USE SOME HELP?

As teachers, we need to be critical consumers of curricula and materials that may be available to us. Just because something is published commercially does not mean that it works for the students you are teaching. We need to determine if the commercial product is something of quality that includes research-based practices and is something that meets the needs of the students we are teaching. If you currently are using a commercial phonics program, review the comparison table between picture sorting and a commercial phonics program. Then think about whether the commercial phonics program you are using or may consider using will work for your students. If the

program contains most or all of the features listed in the commercial program column of the table, could your students benefit from adding some picture (or word) sorting as opposed to workbook activities? Are your students being exposed to whole words and then onset and rime prior to learning individual phonemes? Are your students spending more time memorizing than they are learning? If you answer yes to any of these questions, think about how you can incorporate picture or word sorting into your phonics instructional routine.

Word Sorts

The same process is used for word sorts as for picture sorts, with the main difference being that words rather than pictures are placed on the cards. Bear et al. (2000) indicated that familiar words should be used for word sorts and that word sorts work best for students who have a functional sight word vocabulary. Like in the word box procedures mentioned earlier in this chapter, Joseph (2002) recommended a three-step process for word sorts: (a) phonemic sorts, (b) word sorts, and (c) spelling sorts. Like the word box procedure, word sorts are appropriate phonics procedures for whole class, small group, and peer buddy sessions.

Phonemic Sorts

1. In phonemic sorts the teacher prints category words on note cards for each student.

2. The teacher places the note cards horizontally on each student's desk and gives each student a colored plastic chip.

3. The teacher says a targeted word aloud and each student places a chip below the category word that sounds similar.

4. The teacher monitors students' responses and provides corrective feedback.

5. When the teacher says a new word, students are asked to move the chip to its place below the appropriate category word.

For example, if the three targeted categories of words were short-*e*, -*a*, and -*i*, each student would have the set of category cards shown in Figure 3.8. If the teacher first called the word *bad*, then *bed*, and finally *bid*, each student would move his or her chip in the order illustrated below. If the teacher notices that some students with learning difficulties are not performing the sort successfully, then they may need extra practice working one-on-one with the teacher or in a small group. The students may need to watch closely as the teacher says the words. Then the students might see how the teacher's mouth moves differently as he or she makes the various sounds. Some students may need more practice

Figure 3.7

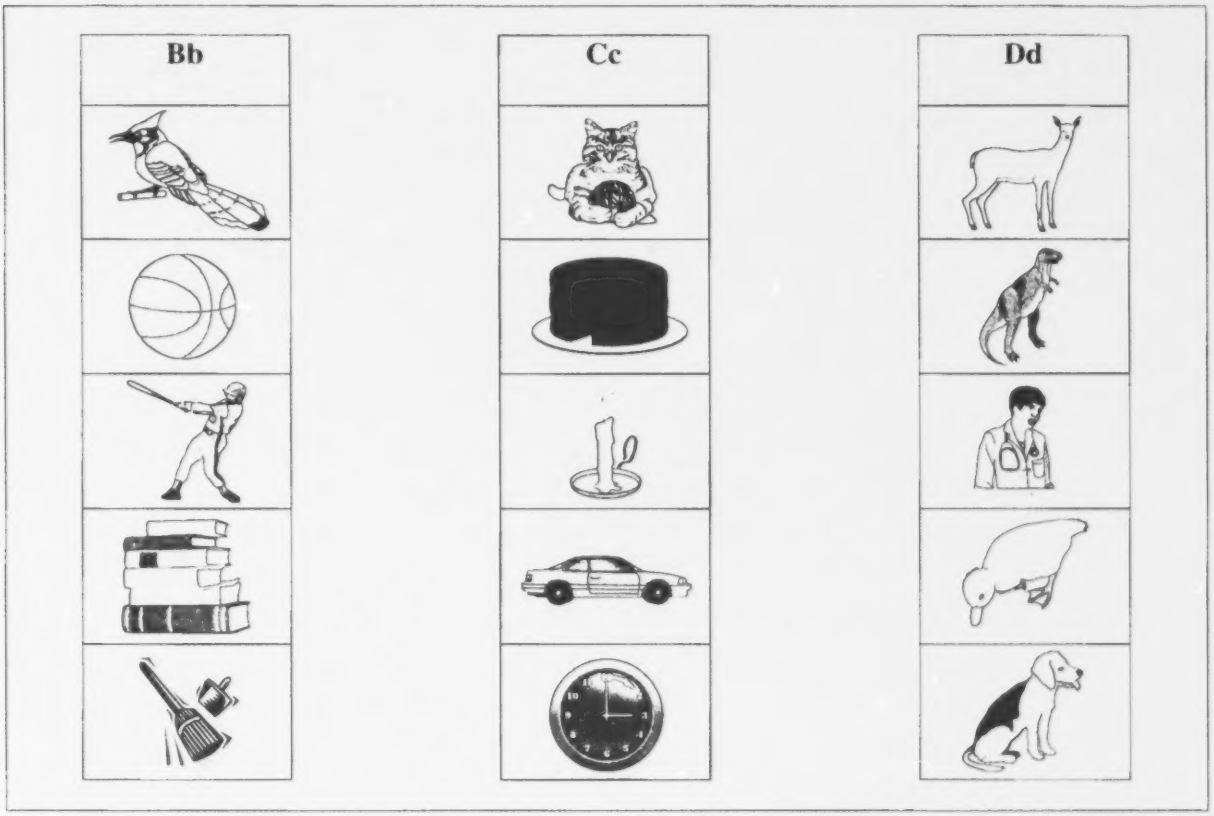
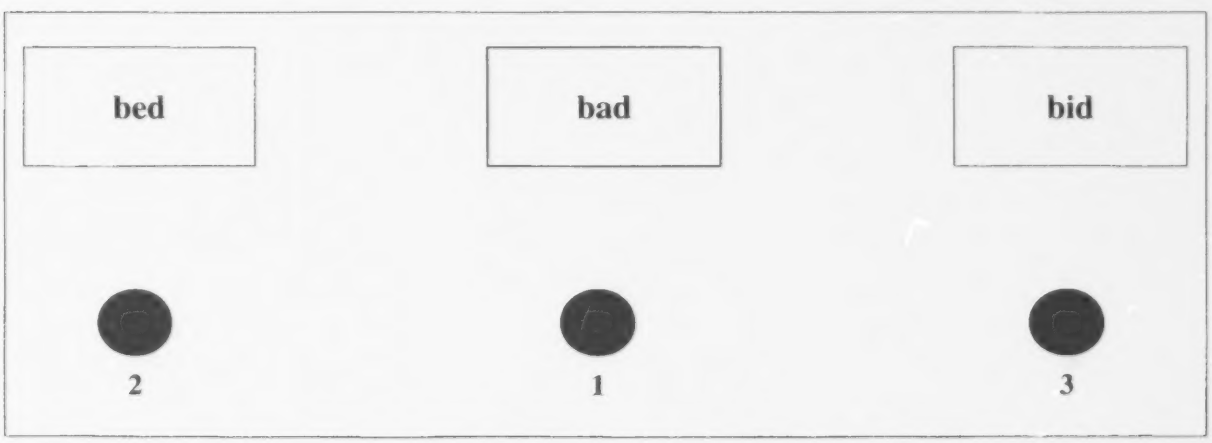


Figure 3.8



Teaching Tip 3.1

Analyzing Words Strategy

Students with learning differences need to know strategies for figuring out difficult words in their reading. Teachers may find it useful to think of possible prompts to help students learn these strategies for word analysis. These suggestions may help you to scaffold instruction to help students learn appropriate decoding strategies and use them independently.

Strategy	*When used*	*Student self-question*	*Teacher prompt (if student has not learned or cannot remember self-question)*
Pronounceable word part	Unknown word contains a part that the student can say (e.g., *am in champ*)	Is there a part of the word I can say?	Can you say any part of the word?
Analogy	Unknown word is like a word the student knows (e.g., *grain* is like *rain*)	Is the word like any word I know?	Is the word like any word that you know?
Sound by sound	Student cannot chunk word. Determines word sound by sound /s/-/p/ - /e/ - / l/ - /l/	Can I sound out the word?	Can you say the first sound, second sound, next sound, and so on?
Context	Student cannot use phonics clues, but can use context clues.	Can I read to the end of the sentence and see what would make sense?	Can you read to the end of the sentence and see what word would make sense?
Monitoring	Student checks to see if the word is a real word that makes sense.	Is this a real word? Does it sound right? Does it make sense?	Is this a real word? Does it sound right? Does it make sense?
Affirmation	Student's correct use of a strategy.	I used a strategy correctly to figure out a word I didn't know.	I liked how you used a part of the word that you knew to help you figure out the whole word.
Assessment	Teacher wants to determine strategies the student is using.	—	How did you figure out that word?
Starter	Student cannot use any of the strategies to decode an unknown word.	—	Could the word be _____?

SOURCE: Adapted from Gunning (2000, p. 96).

Picture sorting	*Commercial phonics program*
Goes from known to unknown. Students pronounce the picture name and analyze the sounds as they sort through a stack of pictures.	Contains words that may be unknown to the students.
Uses analytic phonics—goes from the whole word to the word parts (i.e., onset and rime) and then to individual phonemes.	Uses synthetic phonics—goes from the individual phonemes to the whole word.
Determines similarities and differences among target features while using higher level thinking skills to make categorization judgments.	Involves rote memorization, isolated sound drills, or overreliance on rules that students may not understand.
Is efficient—students receive practice with several examples that they can study in a few minutes.	Is not efficient—students spend 10–20 minutes on a workbook activity that contains only a few examples.

hearing the words, so they can discriminate among the different short vowel sounds. At first glance, some struggling readers may think that all the words look and sound alike due to the same beginning and ending sounds. These students may need extra cues and teacher assistance to help them listen for the short vowel sound in the middle.

Word Sorts

1. The teacher asks students to place the category word used in the phonemic sort near the top of their desks.

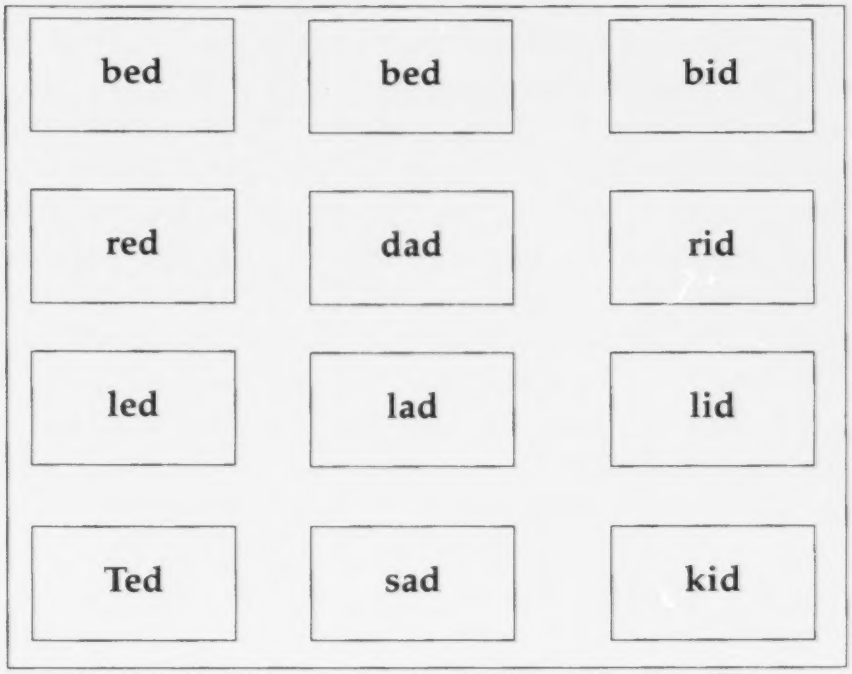
2. Each student has his or her own stack of words printed on note cards (prepared prior to the activity). The student places each card from his or her stack below the respective category word with the shared spelling pattern, as in Figure 3.9.

After all word cards are sorted, the student may read his or her words aloud. If the student has sorted a word incorrectly, he or she may check the incorrect word card against the category card to determine why the error occurred.

Spelling Sorts

1. Students are given or are asked to take out a sheet of paper and write the same category words from the phonemic sort and the word sort across the top.

Figure 3.9

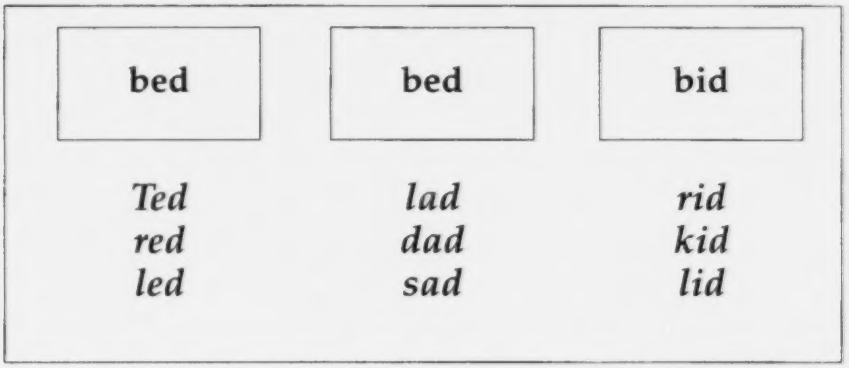


2. Using the same set of words as in the word sort, the teacher says a word aloud while students write that word below the appropriate category word on the paper (Figure 3.10). The spoken word may share a similar sound or spelling pattern as the category word. This process continues until all words are presented.

Strategy: Making Words

In addition to sorting words activities, Cunningham and Cunningham (1992) suggested that students participate in making words activities. Making words activities are hands-on and allow students to discover letter–sound relationships and learn how to find word patterns. Students also learn that changing just one letter or letter sequence changes the whole word. The 15-minute making words activities consist of students individually being given some letters in which they are asked to make 12–15 words. Students with learning difficulties may do well to make about one-half that many words. Students begin with two-letter words and then continue on to three-letter, four-letter, five-letter, and longer words. Obviously, the teacher can adapt the making words activity to meet individual student needs with regard to number of words and word length. For example, students who are learning letter sounds for *a*,

Figure 3.10



m, *s*, and *t* might make the following words: a, as, at, mat, sat, Sam, and tam. The final word of the day consists of a larger word that includes all the letters of the day, so the final word for our example would be *mast* (or possibly *tams* or *mats*). See Teaching Tip 3.4.

Once students have learned basic word sorting and word making skills, they can hone and practice their skills further by performing some of the activities that are listed in the following teaching tip. Teachers will find these ideas easy to incorporate into their lessons to provide students with learning difficulties the extra practice that they may need.

Strategy: Word Banks

As students study consonant sounds and begin to remember sight words that they can identify in isolation, they can form their own individual word banks (Bear et al., 2000). A word bank is an individual student's collection of words that he or she knows in isolation (Rasinski & Padak, 2001). Remember that the words are student chosen, not teacher chosen (Bear et al.). These words are written on small cards, collected over a period of time, and reviewed regularly. Cards containing forgotten words are discarded. Therefore, frequent review is crucial for students with learning difficulties who may forget learned words if they are not practiced often. A constantly diminishing word bank would be enough to discourage any struggling reader. Instead, regular review can help individual student word banks to increase. In the early alphabetic stage, word banks support students' increasing sight word knowledge and letter–sound correspondence knowledge. For students in the later alphabetic stage, their word bank words can be used in word sorts to determine similarities and differences in letters and sounds. Word banks

Teaching Tip 3.2

Word Study Instruction Principles

1. *Determine what students use but confuse.* If students consistently make the same errors (e.g., leaving a vowel sound out of a word that needs it and adding an extra vowel to words that don't need it), take your cue from your students as to how they need assistance rather than trudging ahead with whatever happens to be in the curriculum.

2. *A step backward can be a step forward.* Build a firm foundation with what students already know and relate known information to the new task at hand. For example, be sure to compare and contrast new sound patterns to familiar ones.

3. *Select words that students can read.* If students are familiar with word pronunciations then they will have a better chance at performing word comparison activities (e.g., word sorts) and spelling the words.

4. *Compare example and nonexample words.* In order to define something, students need to be exposed to example words that fit into certain categories and nonexample words that do not fit into the categories. For example, if a student is confused as to when a word's spelling pattern contains the same double consonants and when it does not, the student should be presented with examples (e.g., planning, skipping) and nonexamples (e.g., cleaning, raining) of the same double consonant pattern.

5. *Use sound and sight for sorting.* Students need to have practice using both sound and sight for sorting. First, give students the opportunity to sort words by sound (e.g., soft *g*, hard *g*) and then ask them to sort by word pattern (e.g., *dge*, *ge*, *g*).

6. *Start with obvious contrasts.* When students are learning new information, they may become confused easily. Therefore, teachers should select target pictures or words that distinctively are different. For example, students who are learning initial consonant sounds easily could confuse *m* and *n* sounds. A better choice would be to compare the sound of *m* with the *s* sound. The idea is to move from general discriminations to more specific ones.

7. *Explain exceptions.* Instead of hiding exceptions, place them in a miscellaneous oddball category.

8. *Don't tell students spelling rules.* Students likely will memorize and forget spelling rules. Instead help them to compare and contrast word patterns. The teacher's challenge is to plan instruction to make word consistencies explicit.

9. *Aim for automaticity.* Although accuracy in sorting is important, it is not the only concern. In order to be proficient readers, writers, and spellers, students must acquire automaticity in recognizing and sorting patterns.

(Continued)

Teaching Tip 3.2 (Continued)

10. *Students find examples in meaningful texts.* Once students have had sorting practice they need to return to meaningful texts to locate other examples to add to the sorts. These hunts help students to extend their word analysis skills and acquire more difficult vocabulary.

The bottom line is that "in word study students examine, manipulate, and categorize words" (Bear et al., 2000, p. 70). Teachers are expected to create tasks that help students to focus on critical contrasts.

SOURCE: Adapted from Bear et al. (2000, pp. 67–70).

may be used in conjunction with personal readers, which are individual student copies of selected passages that they can read independently or with little teacher assistance. Students may underline word bank entries found in their personal readers. This may be a helpful activity for struggling readers to ensure that they are identifying known words from their word banks in the context of stories. Entries in personal readers should be numbered and dated in order to use this information as an informal assessment of reading progress.

As students move to the within word pattern stage, teachers will notice that students' reading and writing become less labored in this fragile period of development (Bear et al., 2000). The following summarizes the characteristics, reading and writing activities, and word study focus for the within word pattern stage.

Strategy: Word Study Notebooks and Word Boxes

During the within word pattern stage be sure to give students many opportunities to find reliable word patterns through word sorts and other activities (Bear et al., 2000). Word study notebooks will help students record routine word study activities and provide documentation of student progress with word study. Each spelling pattern will have a separate page. For example, in the section for the vowel *o*, there may be pages of short-*o* sounds, followed by pages of long-*o* sounds, then a page of CVVC (consonant–vowel–vowel–consonant) words, and finally a page of CVCe (consonant–vowel–consonant–silent-*e* words). You may find it useful to have students write about their thoughts as to why they chose a particular way to sort the words. This will help the student and teacher recognize what the student has learned about word patterns. These reflections may be contained in a reflection section of the student's word study notebook.

Keep in mind that students with learning difficulties may need extra support in the form of modeling and prompts in order to create and

maintain an organized word study notebook. They may not know how to organize the information in a meaningful way, so be sure to show them examples of well-organized and perhaps some unorganized word study notebooks. Focus some discussions on how easy it is to locate information in a well-organized notebook as opposed to one that has papers placed in any direction. Periodic notebook checks may help reinforce the value of being organized as well as alert the teacher to potential problems that students may have in keeping their notebooks in order.

Students with learning difficulties also may need extra help in adding new words to their notebooks in the proper place. Using a variation of word boxes (see the explanation of word boxes under the letter-name alphabetic stage earlier in this chapter) and teacher cues to alert students to the particular word pattern being studied may be helpful. For example, if students were trying to determine if a word has a CVVC pattern, ask them to look at each letter of the word in the order that it appears and write the information down rather than trusting it to memory. If the word to be examined is *look*, then students might write:

Yes, the word *look* fits the CVVC pattern. If the next word to be examined is *best*, then students might write.

l	o	o	k
C	V	V	C

No, the word *best* does not fit the CVVC pattern because it has three consonants instead of two.

b	e	s	t
C	V	C	C

REFLECTIVE EXERCISE 3.3
USING WORD STUDY NOTEBOOKS FOR STUDENTS AND TEACHERS

You may want to reflect using the information provided in this chapter for the letter-name alphabetic stage and the within word pattern stage, as well as the brief description of word study notebooks listed above to plan how you could incorporate student word study notebooks into your phonics instructional

routine. What are some specific ways that students can use these notebooks? What are some specific ways that teachers can use these notebooks?

You should consider compiling a teacher version of the word study notebook that contains the originals of any word study activities that you provided for students. You can use sticky notes to jot down the date used as well as any changes or adaptations that might need to be made in the future or that would be helpful for students with learning difficulties having particular problems with the activity. As you accumulate new word study activities and information, be sure to keep this information organized in your notebook to correspond with your instructional plans for students. Don't let the notebook become a catchall of good ideas that never get used!

Teaching Tip 3.3

Word Sort Categories

The following suggestions are just a few examples of categories that teachers can use in designing word sorts for their students. Be sure to determine which of these are most appropriate for students at particular developmental levels and which might be most beneficial for your students with learning difficulties.

Words with

- Consonant blends
- Prefixes
- Suffixes
- Certain vowel sound
- One or two syllables
- Other words in them
- A designated word family

- No consonant blends
- No prefixes
- No suffixes
- Without a certain vowel sound
- Three or more syllables
- No other words in them
- No designated word family

Words that

- Are nouns
- Express feelings
- You think are interesting

- Are not nouns
- Do not express feelings
- You do not think are interesting

SOURCE: Adapted from Rasinski and Padak (2001, p. 101).

Teaching Tip 3.4

Planning and Teaching a Making Words Lesson

Planning

1. Choose the final word in the lesson, considering the number of vowels, students' interests, letter–sound patterns, and curriculum tie-ins.

2. Make a list of shorter words that can be made using the letters of the final word.

3. From this list, select 12–15 words that include (a) words that can be sorted by patterns, (b) little and big words, so the lesson is multilevel, (c) words that can be made using the same letters in different places (e.g., barn and bran) to emphasize correct sequencing of letters, (d) proper nouns to emphasize capitalization, and (e) words that most students have in their listening vocabularies.

4. Write all the words on index cards ordering them from shortest to longest.

5. Order the word cards further to emphasize that letter patterns and that changing position of letters makes different words.

6. Store the cards in an envelope or plastic bag. Label the envelope or bag with the words in order and the patterns for the word sort.

Teaching

1. Place large letter cards in a pocket chart or on the chalkboard ledge.

2. Have a designated student give one letter to each student.

3. As you hold up and name the letters on the large letter cards, have the children hold up their matching small letter cards.

4. Write the numeral on the board designating the number of letters to be used to start making words (e.g., 2 or 3).

5. Ask the first student who has the first word made correctly to make the same word with the large letter cards. Encourage any students who did not make the word correctly to fix their word when they see the correct version on the large letter cards.

6. Have students continue making words as you change the number on the board to indicate the number of letters needed. Cue students to recognize whether they are just changing one letter, changing letters around, or using the letters to make words from scratch. Also, cue students to capitalize any proper names.

7. Ask students if anyone has made a word containing all the letters. If so, congratulate them. If not, tell students to use all their letters to make the word _____.

(Continued)

Teaching Tip 3.4 (Continued)

8. Once all words have been made, take the teacher's set of word cards and place them one at a time along the chalkboard ledge or in the pocket chart, making sure to place them in the same order in which the students made them. Ask the students to say and spell the words along with you. Use these words to point out word patterns and to guide sorting activities.

9. To provide maximum generalization to reading and writing, have the students use the patterns they have sorted to spell a few new words dictated by the teacher.

Note: You may chose to do Steps 1–7 on one day and Steps 8–9 on the following day.

SOURCE: Adapted from Cunningham and Cunningham (1992, p. 108).

Strategy: Word Sorts

Students with learning difficulties who are functioning in the within word pattern stage will need practice sorting words by long and short vowel patterns such as the long- and short-*e* patterns seen in Figure 3.11. You may want to give the students a long-*e*/short-*e* study sheet in which they cut the rectangles apart to make the word cards to sort (adapted from Bear et al., 2000). Make sure that students with learning difficulties first have had practice with long-*e* sounds and short-*e* sounds separately before trying to discriminate between the two. Notice that the word sort contains some three-letter words to review from a previous sort (shown in the letter-name alphabetic stage) as well as new longer (four- and five-letter) words (Figure 3.12). It is important to tailor the number of words and kinds of words to sort to individual student needs. The sample word sort in Figures 3.11 and 3.12 contains 15 words, which likely will be plenty for many students with learning difficulties to sort and perhaps too many for others. You may want to provide envelopes that students can store their word sort materials in when they are finished with the activity. Each envelope can be labeled and stored in a folder or plastic sleeve in the student's word study notebook, where it will be available for future practice and review. See the teaching tip on word sort categories presented earlier in this chapter to glean additional ideas for word sorts.

Teaching Tip 3.5

Lesson Planning Ideas for Word Families

1. Word Family Wheel. Students may use the wheel individually or with a partner after they have had practice with word sorts. To make a word wheel, cut two six-inch circles from cardboard. Cut a wedge from the first circle and write the rime to the right of where the wedge was cut. On the second cardboard circle, write beginning sounds (onsets) that form words with that family. Space the word onsets evenly around the outside edge, so that only one onset will appear in the cut out window from the first circle. Place the first circle (with the cutout) on top of the second circle (with the onsets). Use a brass fastener to secure together in the center of the circles. Students can turn the top circle to learn new words in the same word family.

2. Flip Books. Flip books are similar to word family wheels in that they help students to learn a variety of words in the same family. Teachers or students may make flip books by placing each of several word onsets on individual index cards that have been cut in two (vertically). Then the rime portion of the word family is placed to the right of a whole index card. The word onset cards are stacked on top with the left edges of all the cards forming the spine of the book. The books can be stapled or secured near the left edge. Students can flip through the onset cards to identify different words in the same word family.

3. Word Maker Cards. Index cards can be cut in half vertically for word maker cards. The onset portion of a word can be written on one cut card portion while the rime portion of the word can be written on the second cut card portion. Students have a variety of cards to place together to form new words. These cards can include initial consonants, blends, and digraphs as students become familiar with each. Students may use word maker cards to play a game with a buddy. Each student takes five cards from the deck, places them face up and tries to form one or two words. Then they take turns drawing from the deck. Whenever a student makes a word, he or she can draw two more cards. If the student cannot make a word, he or she may draw one more card. A variation is for students to use the word maker cards independently to create a word list of as many words as possible.

4. Roll the Die. On a cube write the rime for four contrasting word families. On one of the remaining sides write *lose a turn,* and on the other write *roll again.* Students take turns rolling the die. If the die shows a word family on the cube section facing up, then that student must identify a word from that family and record the word on a piece of paper or the dry-erase board. All students are

(Continued)

Teaching Tip 3.5 (Continued)

responsible for keeping their own list. A word may be used only once. If the die lands on *lose a turn* or *roll again*, students follow those directions. The winner is the student who records the most words in the time allocated.

5. Go Fish. To make playing cards for word family go fish, turn index cards so that the longer portion of the card is vertical. Write a different complete word family word at the top of each card. The bottom portion of the cards will remain blank so that students can hold them like a hand of playing cards. Each player is dealt five cards and the remaining cards are placed face down on the table to serve as a pool from which cards can be drawn. After locating a particular card in his or her hand, the first player asks another to "Give me all your cards that rhyme with ___." For example, if the first player had the word card *bat* in her hand she might ask a particular player for all the cards that rhyme with *bat*. If the other player does not have the requested card(s), then the first player is told to "go fish" and draws a card from the "pond." A player's turn is over when a match cannot be made. The game continues until a player runs out of cards. Students may earn points if they are the first person to go out or if they have the most matching cards.

6. Modified Bingo. Modified bingo is a sorting activity in game format that may be played with three to five columns. The heading for each of the columns is a pattern word. Each row must contain words with the same pattern as the headings. Word cards are placed face down in the center of the table. A few wild cards may be included if desired. Players take turns selecting cards. The player reads the card selected and determines if it will fit on one of the squares on his or her game sheet. After placing a card on the game sheet, the player then must read all the cards that have been placed in that column. For example, a game sheet providing practice on short vowel families might look like the following:

cat	**pet**	**sit**	**hot**
hat	get	hit	pot
	wet		
	met		
	set		

SOURCE: Adapted from Bear et al. (2000, pp. 171–177) and Gunning (2000, pp. 87–88).

3. Within Word Pattern Stage

Characteristics	*Reading and writing activities*	*Word study focus*
• Spells most single-syllable short vowel words • Spells most beginning consonant digraphs and two-letter consonant blends • Reads silently with more expression and fluency • Can revise and edit	• Read to students • Plan self-selected silent reading • Encourage writing each day	• Sort words by long and short vowel sounds and by common long vowel patterns • Explore less common vowels and diphthongs (oi, ou, au, ow) • Review blends and digraphs

SOURCE: Adapted from Bear et al. (2000).

REFLECTIVE EXERCISE 3.4
MAKING WORDS STRATEGY

Review the description and instructions for the making words strategy mentioned earlier in the letter-name alphabetic stage. Plan a making words activity that would be appropriate for your students who are in the transition within word pattern stage. Think about how many words would be appropriate for your students with learning difficulties. Is 12–15 too many or about right? Perhaps there are word lists in the reading curriculum or materials that you are using that could be adapted for use in a making words activity. You may want to include some three-letter words for review as well as some new four- or five-letter or longer words to challenge the students. The challenge for the teacher in preparing this activity is to create the final word of the day that uses all the letters that are in the other words.

After the within word pattern stage, students are in the intermediate stage of development where they can read a variety of texts including newspapers and magazines (Bear et al., 2000). During the intermediate

stage students should be expanding their reading interests and fine-tuning their reading strategies. Students at this level have increased word knowledge that helps them to read fluently and to read more sophisticated passages containing poly- or multisyllabic words. Thus, the focus of word study for this stage is on syllables and affixes (i.e., prefixes and suffixes).

Students without reading problems likely are to be in this stage from approximately Grades 3 to 8. Some of these students may be ready at Grade 5 to move on to the next and final stage, advanced derivational relations, while others need more time in the intermediate stage. Students with learning difficulties particularly may have difficulty with the intermediate syllables and affixes stage. Some may get stuck in this stage and others may never progress to this stage. Particular concepts to be learned during the syllables and affixes stage include (a) open and closed syllables, (b) accent, (c) other vowel patterns, and (d) base words and affixes. Open syllables end with a long vowel sound (e.g., *labor, reason*), while closed syllables end with a short vowel sound often closed by two consonants (e.g., *rabbit, racket*). To determine whether a consonant should be doubled prior to adding a suffix such as *-ing*, consider whether the sound is long or short. If one is describing what a rabbit does, the base word is hop with a short-*o* sound and should be closed with two consonants to become hopping. If instead the base word is hope, which has a long-*o* sound, the syllable is open and is followed by a single consonant—*hope* becomes *hoping*.

Tactic: Working With Homographs

Homographs are words that are spelled the same but have different pronunciations (Bear et al., 2000). These certainly can be confusing to students with learning difficulties. To help students understand the concept of accenting or emphasizing syllables in particular words, first have them examine the pronunciation of their own first name. For example, if the authors of this book examined the pronunciation of their own first names, they would discover that, for both, the first syllable of the first name is accentuated (William is pronounced WILLiam not willIAM, Martha is pronounced MARtha not marTHA).

Working with certain homographs also may be a fun way to help students with learning difficulties learn about accenting syllables (Bear et al., 2000). For example,

- I will give Cathy a PRESent for her graduation, not a presENT.
- Bob will reCORD a message on his answering machine, not RECord it.
- The baby is conTENT after being fed.
- The students will study the CONtent of the science lesson.

Figure 3.11

Long e / Short e Study Sheet

Queen	e	Web
read	yes	jeep
met	beet	eat
led	meal	team
seen	bed	seat
red	jet	bell

Learning Other Word Patterns

Students may not recognize a number of vowel patterns until the upper elementary years (Bear et al., 2000) and students with learning difficulties may find these especially difficult. Some examples of words with the same vowel sound but different spelling are

h*au*l, str*aw*, th*ough*t

enj*oy*, embr*oi*der

(Continued on page 80)

Figure 3.12

Long e / Short e Word Sort

Queen	e	Web
read		yes
jeep		bed
beet		bell
meal		jet
team		led
seen		met
seat		
eat		

Teaching Tip 3.6

What to Do About Those Oddball High-Frequency Words?

Many high-frequency words do not have common spelling patterns but can be used in word sorts as oddballs (Bear et al., 2000). For example, the word *said* has the *ai* pattern, but is pronounced differently than *paint, faint,* and *wait.* The following are guidelines for the study of high-frequency words.

1. *Optional study.* The study of high-frequency words is optional and should not replace developmental word study for pattern words.

2. *Word selection.* Choose 6 to 10 words to study for one week of each grading period. Thus, if there are four grading periods 24 to 40 words will be selected per year. The words may come from students' writing and the students may be involved in the selection.

3. *Develop routines.* Help students use a systematic way to examine and study the words carefully. This might include the following steps:

   a. *Introduce and discuss the words.* Students may copy the words from the board or be provided a copy of the words. Then the teacher can facilitate a discussion about each word, why it may be difficult to remember, and strategies for helping to remember the word.

   b. *Self-correct test method.* After students have written each word at least one time, they fold their papers to cover the list. The teacher says the words while the students write them. Then the students check their work and rewrite any misspelled words.

   c. *Self-study method.* Students study the words using the following steps:

      i. Look at and say the word

      ii. Cover the word

      iii. Write the word

      iv. Check your work

      v. Write the word again if you made a mistake

   d. *Practice test.* As the teacher or a peer buddy says words, students spell aloud or write the words. Words are checked against a printed list or a chart in the room.

   e. *Final test.* The teacher calls the words and students write or spell them aloud. Once students have mastered the words on the final test, then they are responsible for them in the future. If any word continues to be a problem, it may reappear on future lists.

SOURCE: Adapted from Bear et al. (2000, pp. 196–197).

Teaching Tip 3.7

Within Word Pattern Stage Activities

In addition to word sorts, the following are a few other word study activities that are suitable for students in the within word pattern stage.

1. *Word Hunt.* Students may work independently or with a partner to examine familiar texts to find words that fit a particular pattern. For example, students may be asked to find all the words that sound like the middle of the word *cake.* They write the words in their notebooks as the words are found. Then students may meet in small groups to read aloud the words they have found. Students are asked to look for words they could group together and discuss why they can be grouped together. The small group sharing gives an opportunity for students to find additional words they can add to their word study notebooks. A variation is to use a newspaper instead of familiar texts and to have students work in teams. For example, there may be an *ai* team, an *ay* team, and a CVCe team. Found words may be circled, highlighted, or written down and then shared.

2. *Classic Card Game.* Two to five players may participate in the classic card game, but three is optimal. Cards are made from index cards or tagboard. Known words representing the vowel patterns to be reviewed are written on the top of the cards in order for students to hold a hand of cards using the card bottoms. Each player is dealt seven cards. The dice are rolled to determine the first player. The first player places a card on the table, reads the word, and says the vowel pattern to be followed (e.g., *rain, ai*). The next player places a card on the table that contains the same vowel pattern and reads it. Players pass if they do not have a card to match the vowel pattern. Players forfeit a turn if they do not read their word correctly. The round continues until all players are out of the designated pattern (e.g., *ai*) for that round. The student who played the last pattern card begins the next round by choosing a card from his or her hand, placing it on the table, reading the word, and saying the vowel pattern to be followed. The object of the game is to be the first individual to play all cards in the hand.

3. *Green Light! Red Light! A Sorting Game.* This speed sorting game helps students to develop automaticity or fluency with long vowel patterns. The teacher or leader writes column pattern headings on the blackboard. The column headings for a long-*a* word study might consist of long-*a* CVCe, short-*a* CVC, long-*a* CVCC, and short-*a* CVCC. Then the teacher or leader writes numbers from 1 to 5 under the word sort headings to indicate how many examples are needed in a category. The total number of examples needed across all categories is five. If there are less than five categories, more than one random number may be placed under a category. For example, the numbers 1 and 4 may be placed under the long-*a* CVCC category to indicate that two examples must be located for that category. Each player faces the chalkboard and is dealt seven cards. The remaining cards (minimum of 10) are placed in the draw pile. To begin the game, the teacher or leader says "green light."

(Continued)

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Teaching Tip 3.7 (Continued)

The object of the game is to be the first player to say "red light" when he or she has found all five examples. Other players then place their cards face down, while the player who said "red light" writes the words beside the numbers and reads the category headings and words aloud. Other players can challenge the word-sorting choices by pointing out any incorrect choices on the board and writing their own word(s) to substitute. The teacher or leader judges the accuracy of any challenges. One point is awarded to the players for each word that is correct. The teacher or leader may begin another round by writing a new set of numbers under the category headings. The winner is the player with the greatest number of points.

4. *Scattergories.* Scattergories is a game that is best suited for small groups of two to three students to help them generate words with particular patterns. Students and teacher can brainstorm five word patterns to be placed across the top of the game sheet. Then the teacher provides a random set of consonants and consonant blends that go down the left column of the game sheet (see the sample game sheet and a reproducible blank copy of the game sheet below). Then students are given 5 to 10 minutes to think of words that fit in the appropriate boxes. Only one word can go in each box. To encourage students to think of longer words, one point can be given for each letter in each correct word generated. Another variation is to encourage students to think of as many words as they can to fill each square. Give one point for each correct word generated.

SOURCE: Adapted from Bear et al. (2000, pp. 201–210) and Rasinski and Padak (2001, pp. 144–145).

mo*un*tain, ch*ow*der

win*ter*, mo*tor*, doll*ar*

nick*el*, midd*le*, met*al*

Strategy: Double Word Sort

Students with learning difficulties can benefit from doing a double word sort with confusing words such as the previously mentioned list that contains *au, aw, ou, ow, oy, oi, er, or, ar, el, le,* and *al* words. This list likely may contain too many different word patterns for a student with learning difficulties to tackle at one time, but selecting two to four of the combinations may be appropriate for these students. Notice in the following example that students are given a word study sheet with *er, or,* and *ar* words. Make sure that you point out to students with learning difficulties that the words are not in proper order, but you would

(Continued on page 83)

Scattergories Game Sheet (Example)

Word families→ Consonants↓	at	it	ack	ick
b	bat	bit	back	brick
p	pat	pit	pack	pick
cl	clatter		clack	click
sl	slap	slit	slack	slick

SOURCE: Adapted from Rasinski and Padak (2001, pp. 144–145).

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Scattergories Game Sheet

Word families → Initial letters ↓				

SOURCE: Adapted from several sources, including Bear et al. (2000, pp. 201–210) and Rasinski and Padak (2001, pp. 144–145).

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4. Syllables and Affixes Stage

Characteristics	*Reading and writing activities*	*Word study focus*
• Spells most single syllable words • Reads with good expression and fluency • Reads faster silently than orally • Writes sophisticated responses	• Plan read-alouds and literature discussions • Encourage self-selected or silent novel reading • Begin note taking and outlining skills • Explore reading and writing styles and genres	• Examine consonant doubling • Focus on unaccented syllables (*er, le*) • Link spelling and vocabulary studies (meaning and spelling) • Sort and study affixes (prefixes and suffixes)

SOURCE: Adapted from Bear et al. (2000).

like for them to cut the word cards apart and sort them the first time according to the letter patterns of *er, or,* and *ar* that are written at the top of the sheet.

Word Study Sheet—*er, or, ar*

er	or	ar
winter	motor	dollar
scholar	teacher	player
dealer	collar	parlor
sailor	tailor	maker

After students have completed the first word sort by placing words under the appropriate *er, or,* and *ar* categories, have them sort the same words (without using the *er, or,* and *ar* labels) according to ending sound. You immediately recognize that all the words in the previous

word sort, when sorted by ending sound, will end up together because they have the same ending sound. Students with learning difficulties may not come to this conclusion unless they have the opportunity to use a variety of their senses to perform the second word sort.

In order for students to analyze unknown words in reading passages and to increase their vocabulary, knowledge of base and root words and affixes is helpful (Bear et al., 2000). Students still should be using their word study notebooks to record new words and word study activities that they complete as well as any reflections. At the intermediate stage, students usually can complete a good amount of individual and small group work. They should be able to use word study routines to help them become responsible for performing at their best. Choices for playing with words can be student selected or teacher selected. Note that students with learning difficulties may need extra cues and examples if they do not understand what they are supposed to do to perform the playing with words tasks. A review of key terms such as base word, prefix, and suffix may be helpful for these students prior to beginning the activities.

Tactic: Playing With Words

1. Select five words from a word list and circle the base word for each word.

2. When appropriate, make plurals for words on your list.

3. Select five words from a word list. For each word, make as many new words as possible by using the same letters.

4. Circle prefixes found in words on your list.

5. Underline suffixes found in words on your list.

6. Select three words on a word list and change at least one letter to make a new word.

7. When possible, add prefixes and suffixes to words on your list.

8. Sort your words according to subject areas (e.g., math, science, language, social studies).

9. Practice speed in word sorting.

10. Generate new lists of words with the same patterns.

SOURCE: Adapted from Bear et al., 2000, p. 227.

Strategy: Analyzing Unfamiliar Words

In addition to using word study routines to play with words, students should be able to analyze unfamiliar words in context (Bear

Word Sort 1: Word Endings by *er, or, ar*

er	or	ar
winter	motor	dollar
teacher	sailor	scholar
player	tailor	collar
dealer	parlor	
maker		

---

et al., 2000). Students with learning difficulties may find analyzing unfamiliar words difficult, but can benefit from learning and practicing a systematic strategy such as the following:

1. Examine a word for its parts.
    a. If it has a prefix, remove it first.
    b. If it has a suffix, remove it next.
    c. See if the base word is familiar or if you know another word that has the same base.
    d. Reassemble the word and think about the meaning of the base, prefix, or suffix if that meaning is known.

Word Sort 2: Words With the Same Ending Sound

Same Ending Sound		
winter	motor	dollar
tailor	scholar	sailor
player	teacher	maker
collar	parlor	dealer

2. Look for familiar patterns and try to pronounce the syllables and the word.

3. Read the sentence containing the word to determine if meaning can be derived from the context or remainder of the sentence.

4. If you still do not know the word, use a dictionary.

5. Record the new word in your word study notebook.

SOURCE: Adapted from Bear et al. (2000, pp. 227–228).

Students move from the intermediate stage (i.e., syllables and affixes stage) to a more advanced stage, referred to as the derivational relations stage (Bear et al., 2000). This advanced stage may occur about Grade 5 for some individuals, but may not occur until Grade 12 for others, and may not occur at all for some individuals with learning difficulties. For those students who do reach the derivational relations stage, many of the same instructional principles and activities listed for the intermediate

Teaching Tip 3.8

Syllables and Affixes Stage Activities

1. *Various sorts.*
   a. Plural word sorts (e.g., *s* and *es*)
   b. Compound word sorts (e.g., people—anyone, someone; things found outside—sunshine, campfire, airplane)
   c. Word endings (e.g., *ed* and *t*)
   d. Categories of word endings (e.g., no change, punching; double, bragging *e*-drop, trading)
   e. Base word and suffix or prefix sorts
   f. Confusing endings (e.g., *el* and *le*)
   g. Similar sounds but different spellings (e.g., oi and oy; ou and ow)

2. *Homograph concentration.* Prepare four sentence cards for each homograph (e.g., She had a *tear* in her jeans. I will *tear* the paper. A *tear* ran down the girl's cheek. The television program brought a *tear* to my eye). The sentence cards are shuffled and placed face down on the table. Players take turns turning over two sentence cards to try to find two homographs with the same pronunciation. If the two cards match, the player keeps them and gets another turn. If the two cards do not match, then they must be turned face down on the table. Each pair of sentence cards is worth 10 points and the object of the game is to reach 100 points.

SOURCE: Adapted from Bear et al. (2000, pp. 229–248).

stage also are appropriate for the advanced stage of word study. For example, at both stages students need to explore words actively and apply word knowledge to spelling, vocabulary development, and analyzing unknown words.

The particular word study concepts that students at the derivational relations stage need to learn are (a) the spelling–meaning connection, (b) Greek and Latin elements (i.e., word roots), and (c) word origins (Bear et al., 2000). Through the spelling–meaning connections, students learn to examine words that have related spellings and meanings. For example, students likely may forget to put the silent *n* in the word *condemn*. If students recognize that the word *condemn* is related to the word *condemnation*, they may be able to discover that the word *condemn* indeed ends with an *n*. Students have been exposed to base words to which affixes can be added. Now students are ready to explore word roots, particularly from Greek and Latin origin. Unlike base words that can stand alone, word roots cannot stand alone. If students learn the most common

5. Derivational Relations

Characteristics	*Reading and writing activities*	*Word study focus*
• Mastered high-frequency words • Makes errors on low-frequency multisyllabic words • Reads with good expression and fluency • Reads faster silently than orally • Writes sophisticated responses	• Include silent reading and writing, exploring various genres to accompany interests • Develop study skills • Focus on literary analysis	• Focus on words that students bring to word study from reading and writing • Link spelling and vocabulary studies (meaning and spelling) • Examine common and less common roots, prefixes, and suffixes • Study word histories in content areas

SOURCE: Adapted from Bear et al. (2000).

Greek and Latin word roots and how these elements are combined within words, then they will have powerful tools to continue vocabulary and spelling growth. Another powerful tool is etymology or the study of word origins. Many words that have come from literature, mythology, and history provide important background knowledge to aid students' reading in content areas such as science, social studies, and math.

REFLECTIVE EXERCISE 3.5
WORD ORIGINS

Teachers need to be role models for their students. Even older students can benefit from seeing their teachers model word study activities for lifelong learning. You probably have been modeling what good readers do by showing students that you enjoy reading to learn as well as reading for pleasure. Perhaps you could start by keeping your own word study notebook. An obvious section in your notebook would be unknown words (pronunciation, spelling, and meaning) that you encounter in your reading. Why not include another section of word origins?

For example, can *you* match the following word roots with their meanings?

phon (Greek)	to break, burst
auto (Greek)	writing
graph (Greek)	to look
spect (Latin)	sound
rupt (Latin)	to speak, say
dict (Latin)	self

If you still are having difficulty with some of these word roots, try to think of a word that you know that includes the word root. For example:

phon	*phon*ograph
auto	*auto*matic
graph	dys*graph*ia
spect	in*spect*
rupt	e*rupt*
dict	*dict*ate

Perhaps it has been a long day at school and you need help with one or two and would like to have the answers to put in your word study notebook. The chart below provides information on common word roots.

Word root	*Origin*	*Meaning*	*Example word*
phon	Greek	sound	*phon*ograph
auto	Greek	self	*auto*matic
graph	Greek	writing	dys*graph*ia
spect	Latin	to look	in*spect*
rupt	Latin	to break, burst	e*rupt*
dict	Latin	to speak, say	*dict*ate

This word origins reflective exercise can be used for your students when appropriate. Think of other word roots that you might include. A reproducible blank copy of a word root graphic organizer can be found on page 93.

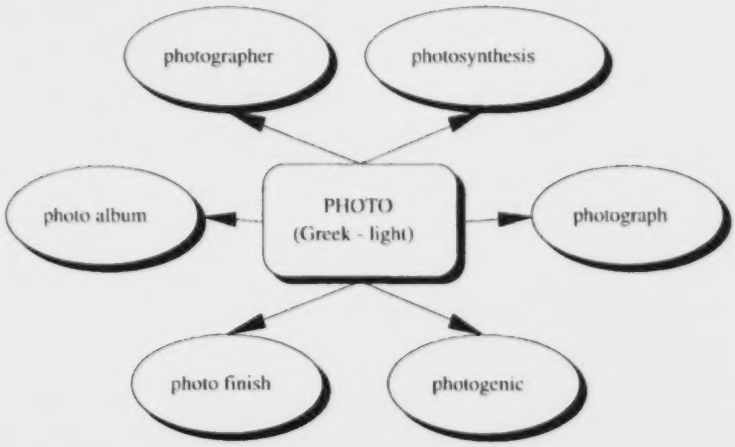
Teaching Tip 3.9

Derivational Relations Stage Activities

1. *Various word sorts.*
   a. *sion* or *tion*
   b. *able* or *ible*
   c. *ence* or *ance*
   d. *ary, ery,* or *ory*
   e. Greek root word families (e.g., dia*gram*, mono*gram*, tele*gram*)
   f. Categorize words with Greek and Latin roots. For example,
      i. Building and construction
         1. technology
         2. construct
         3. tractor
      ii. Government
         1. economy
         2. politics
         3. demagogue
      iii. Travel
         1. astronaut
         2. exodus

2. *Matching Greek or Latin word roots and definitions.* Place the word on one card and the definition on another. A word sort can be done with the card to match each word with its definition or a game of concentration can be played with the cards. See the directions for homograph concentration in Teaching Tip 3.8, Syllables and Affixes Stage Activities.

3. *Make root webs.* Students can make root webs for their word study notebooks, as in the following example.



(Continued)

Teaching Tip 3.9 (Continued)

4. Synonym and antonym continuum. Students can be given word cards to arrange along a continuum. Students will need to explain why they arranged the cards in a particular order, as in the following example.

frigid	frozen	chilly	cool	tepid	balmy	warm	hot	boiling

SOURCE: Adapted from Bear et al. (2000, pp. 257–284).

CONCLUSION

This chapter has focused on a variety of word study strategies such as word boxes, analyzing words, picture sorts, word sorts, making words, word banks, and word study notebooks that can enhance phonics and word study instruction for students at a variety of developmental stages, especially those with learning difficulties. The authors hope that you will use a number of the individual student and class activities and games in your instructional plans to help your students become more proficient and independent at decoding unknown words and recognizing word patterns.

WHAT'S NEXT?

In the next chapter you will find a discussion of sight word instruction as well as a number of strategies to help students with learning difficulties build their vocabulary and reading fluency. Students who have larger vocabularies likely will be more fluent and successful readers, and it is hoped they will discover that reading is pleasurable.

Teaching Tip 3.10

Assessing Decodability of Text Materials

Much of this chapter has focused on providing students with developmentally appropriate activities to help them learn word patterns in order to decode unknown words. Last, but certainly not least important, is making sure that students have appropriate text materials to practice their decoding skills. Gunning (2003) has developed a list to help teachers select texts based on students' developmental levels.

_____ High-Frequency Word Level
Text can be read by using picture clues and knowing no more than 10 high-frequency words, e.g., *the, of, you, have, has, where.*

_____ Short Vowel Level
At least 10% of the words contain short vowels. At least 80% of the words contain short vowels or are high-frequency words.

_____ Long Vowel Level
At least 10% of the words contain long vowels. At least 80% of the words contain long vowels or short vowels, or are high-frequency words.

_____ Other Vowel Level
At least 10% of the words contain other vowels (e.g., *aw, oo, ow, oy*). At least 80% of the words contain other vowels or long or short vowels, or are high-frequency words.

_____ *R* Vowel Level
At least 10% of the words contain *r* vowels (e.g., *ar, air, er, ear, ir, or*). At least 80% of the words contain *r* vowels, long, short, or other vowels, or are high-frequency words.

_____ Multisyllabic Level
At least 10% of the words have more than one syllable.

SOURCE: Adapted from Gunning (2003, p. 185).

Word Root Graphic Organizer

Word root	*Origin*	*Meaning*	*Example word*
phon	Greek	sound	phonograph

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4

Strategies for Building Vocabulary and Reading Fluency

Strategies Presented in This Chapter Include

- ✔ Picture Fading Strategy
- ✔ Word Bank Strategies
- ✔ Hypertext and Video Technology
- ✔ Graphic Organizers
- ✔ Semantic Webs
- ✔ Semantic Feature Analysis (SFA)
- ✔ Keyword Method
- ✔ IT FITS: A Learning Strategy for Vocabulary Development
- ✔ Cloze Procedures
- ✔ Concept Circles
- ✔ Repeated Reading Procedures

As children with learning difficulties learn to master phoneme manipulation, phonics, and initial word recognition skills, they begin to read more frequently. Thus, skills in vocabulary acquisition and reading fluency become more important as children progress through school. Further, as a student's reading skills develop, many of the processes (such as phonemic recognition or sounding out words) become more automatic; in short, students develop automaticity in their decoding and word recognition skills. This chapter will examine both vocabulary development and reading fluency, and present strategies in each of these areas.

BUILDING VOCABULARY

Building vocabulary is a critical reading skill. In a broad sense, building vocabulary is a lifelong task for most individuals, since advancement in many jobs involves learning vocabulary associated with those jobs. For this reason alone, skills in mastering vocabulary can facilitate success in life.

From the school perspective, successful reading is highly dependent upon vocabulary (Baker, Simmons, & Kameenui, 1995). During the early years of life and the subsequent school years, vocabulary typically refers to one of four types, and each of these represents a progressively increasing mastery of vocabulary terms. These four types of vocabulary are as follows (National Institute of Child Health and Development [NICHD], 2000):

Listening vocabulary—words a child knows when he or she hears them

Speaking vocabulary—words a child uses in speaking

Reading vocabulary—words a child recognizes in print

Writing vocabulary—words a child uses in his or her writing

The first two types of vocabulary relate to oral use of language, or oral vocabulary, whereas the last two types relate to print vocabulary. We also note that teachers can do a number of things to enhance each type of vocabulary. Foil and Alber (2002) suggest that teachers employ a variety of methods, actively involve students, provide instruction that relates target vocabulary to other known words, and provide frequent instruction using new vocabulary terms in a variety of contexts. The National Reading Panel (NRP; 2000) was, perhaps, more succinct in stating that two things build vocabulary during the elementary years:

(a) Exposure to new words, their pronunciation, and their meaning
(b) Repetitive use of newly mastered words

First, this chapter will present a number of ways to build both oral and print vocabulary in the elementary and middle grades, and each strategy will address each of the fundamental requirements above. A discussion of vocabulary instruction and the importance of vocabulary is presented, along with suggestions to supplement the phoneme- and phonics-based decoding skills with sight vocabulary instructional skills. By combining sight-word recognition and phonemic decoding skills, students will be able to progress through ever more complicated reading content. Next, a variety of specific strategies that may be used to build and strengthen vocabulary are described.

THE IMPORTANCE OF VOCABULARY DEVELOPMENT

Research has documented the fact that, unless students develop and use a large vocabulary, they will not be successful in reading and many additional school endeavors (NICHD, 2000). For example, children use the vocabulary terms that they have already mastered in order to decipher new words in their reading text, and a limited vocabulary can inhibit reading achievement (Baker, Simmons, & Kameenui, 1995). While the National Reading Panel (NICHD, 2000) concluded that vocabulary instruction itself did not increase reading comprehension, it is quite clear that a limited vocabulary can impede reading success. Also, vocabulary development represents one measure of success in many school subjects, and an expanding vocabulary can lead to an increasing understanding of the fundamental constructs in many higher-level subject areas (Baker, Simmons, & Kameenui, 1995; Bender, 2002; Vacca & Vacca, 2002). Further, because content area learning in elementary, middle, and high school is extremely dependent upon mastery of subject-specific vocabulary terms, students who cannot learn new vocabulary will be severely impaired in their ability to understand the subject matter in these content area courses.

Upon reflection, teachers quickly realize that high levels of achievement in almost any subject area involve mastery of a set of vocabulary terms that are specific to that area. For example, when one hears any of the terms

vertebrates

civil war

asteroids

one immediately thinks not only of the specific object or event referenced by the terms, but also of an entire field of study to which those vocabulary terms apply. Thus, when teachers consider the importance of vocabulary in every academic endeavor, it is readily apparent that students will need an

array of skills that enable them to approach unknown vocabulary terms in the context of their reading and decipher these terms.

REFLECTIVE EXERCISE 4.1
REPORT ON NEW VOCABULARY INSTRUCTION

You may wish to review a variety of methods for learning new vocabulary, as described in Hall (2000), which summarized the results on the National Reading Panel study (*Report of the National Reading Panel: Teaching Children to Read).* You can find this article at www.ldonline.org. Once there, check the menu under the button called "LD In Depth" (at the top of the page) and then click on "Reading."

DO WE STILL NEED SIGHT-WORD APPROACHES FOR VOCABULARY INSTRUCTION?

While phoneme-based reading instruction coupled with phonics as presented in Chapters 2 and 3 is clearly the most effective instructional tactic for most children with learning difficulties (Kameenui, Carnine, Dixon, Simmons & Coyne, 2002; NICHD, 2000), some children may require additional instruction that is not tied directly to letter–sound manipulation or phonics. In fact, for some students, the most effective reading instructional tactic may be based on techniques that are not exclusively dependent on the alphabetic principle, but rather involve rote memory of whole words coupled with context clues in order to determine the meaning of new words. These non-alphabetic-principle techniques, taken together, may be thought of as sight-word instruction. That is, sight-word approaches would include rote memory of whole words, use of context clues to decode new words, and any attempts to master instant word lists.

For many students with reading difficulties, a combination of reading decoding approaches seems to work best—approaches that involve both letter-sound instruction and use of context clues to determine the meaning of unknown words. Further, some of the sight-word techniques are actually more similar to the complex reading skills of advanced readers than are the letter-by-letter decoding skills described in Chapter 3. In fact, accomplished readers in the elementary and higher grades use context clues quite extensively in combination with phonics and word attack skills to decipher new words.

Further, because of the importance of vocabulary development in the later years of school, sight-word techniques and vocabulary development techniques that were originally associated exclusively with sight-word instruction in the primary grades are now being applied in various subject areas in the curriculum. For example, word bank activities and the

use of context clues—techniques originally used to teach lower-level sight vocabulary in Grades 1 and 2—have seen a reemergence in higher grades and may assist many students in mastering vocabulary lists from social studies, math, or science in Grades 5, 6, or 7.

Vacca and Vacca (2002) noted an additional emphasis on vocabulary instruction. In the elementary grades, the introduction of vocabulary terms in a content area may be synonymous with an introduction to the fundamental concepts in that area. Thus, teachers across the elementary grade levels should become aware of these techniques and how they may be applied in content area classes from Grades 3 through 6. This chapter will present a variety of vocabulary strengthening techniques that were originally used in sight-word instruction which may be used in these grades.

Finally, a number of additional techniques that employ higher-order thinking skills also will assist in the development of vocabulary in elementary and middle school classes. Because of the strong correlation between a growing subject-specific vocabulary and comprehension in many subject areas (Vacca & Vacca, 2002), a number of techniques that strengthen comprehension also may be used to strengthen vocabulary skills. These include techniques such as semantic webbing, semantic feature analysis, concept circles, repeated reading strategies, and cloze procedures. This chapter will present this array of techniques for strengthening vocabulary skills among readers across the grade levels. First, a bit of history on sight-word instruction is necessary.

Sight-Word Instruction: A Brief History

Sight-word instruction was the reading method of choice for all students in the 19th century and the first half of the 20th century, and gave way to phonics instruction from the 1960s through the 1980s. By the 1980s, most students in U.S. schools were taught to read using phonics for the first several years. Nevertheless, early reading scholars had identified certain words that seemed to do most of the work in the English language. Words such as *a, and, the, about, with, what, come,* and *to* account for a high percentage of words in almost every early reading text, and students were expected to master these words without sounding them out. These lists of lower level, frequently used words were referred to as *instant words* or *sight words.* Mastery of these words at an early age was assumed to give reading students an advantage, and students became stronger readers if they mastered these words and could read them instantly. The term *automaticity* is sometimes used to represent the ability to read these instant words very quickly, with little conscious effort (i.e., automatically).

The sight-word approach involved sight memory of whole words, so that a student would be trained in instant recognition of these words. For example, in a sight-word approach, the word *cat* was taught as a

whole, without breaking the word into the phonemes /c/a/t/ and without emphasizing these letter sounds. In many instances words were taught by pairing them with pictures that represent them. Thus, in this version of sight-word instruction, *paired associate learning* was often employed (i.e., pairing two stimuli—word and picture—together very frequently, until both take on the meaning of the other). The student with reading difficulties would concentrate on mastery of the basic words used in English. Further, irregular words (i.e., words which do not follow the general rules for spelling or word formation; in the English language, these words account for approximately 15% of all words) were just as easy to master using this approach as words that were phonetically regular words.

Instruction in sight words resulted in a mastery of numerous words during the early months of instruction for students with and without reading difficulties. Also, sight-word instruction was usually paired with two additional teaching ideas: *configuration clues*, which involved drawing boxes around letters in words to concentrate on the shape of the word, and *context clues*, which involved using other text or pictures presented in the text to determine the meaning of new words. These techniques, along with a growing vocabulary of words that was explicitly taught, gave the student one method for deciphering new vocabulary terms in text. This also highlights the major advantage of this instructional approach. In short, the primary advantage of the sight-word instructional approach is the interdependence between sight-word instruction and the reading strategies applied by sophisticated readers in later years.

For example, attention to context clues is a skill that effective readers use at every grade level, and sight-word approaches tended to emphasize this skill much sooner than phonics-based reading approaches. Whereas phonics instruction involves taking large amounts of time to teach various letter sounds in isolation during the early grades, sight-word recognition involves practice in using the context of the vocabulary term to determine meaning. Thus, students tended to learn a larger vocabulary sooner using a sight-word approach compared to an approach based exclusively on phonics. Of course, we now understand that phoneme manipulation and phonics provide the best basis for later achievement in reading for almost all students (NICHD, 2000); still, there is a need for some sight instructional skills such as using text to cleverly decode the meaning of words.

REFLECTIVE EXERCISE 4.2
HOW DO YOUR STUDENTS LEARN TO READ?

It may be interesting to review the basal reading series used by your school district and consider the points in the discussion above. Are most of the lesson activities addressed to phoneme

and phonics instruction? Do you see examples of lessons in the reading series that attend to interpretation of new vocabulary terms in context? Are configuration lessons included in the text? How much is vocabulary development emphasized by the curriculum? Is your local school's reading curriculum a merger of phonemes and phonics and the sight-word approaches? Most reading curricula in schools today are, but not all. Use the questions above as a guide, and reflectively evaluate your school's basal reader.

HOW GOOD READERS READ

Have you ever driven a car to work and, as you turned into the parking lot, realized that you couldn't recall something about the route you took? If there are several similar routes, and you have been driving to the same job for quite a while, this feeling will not be unknown to you. Simply put, part of your brain was "driving," while you thought of other things, and when you got to work, you couldn't remember a specific corner or if the light at that corner was green or red when you approached it.

In much the same way, effective readers in later years of school don't spend their reading time decoding words individually. While a part of their brain may be doing that, they very often are unconscious of it. Like the driver described above, effective readers read whole words or whole phrases within a sentence at a glance, without decoding. Phrases such as "in the house" or "over the bridge" are read at a glance, without concentrating on either letter sounds or even individual words in the phrase. In fact, if one substituted "over the the bridge" in a story for the phrase "over the bridge," many sophisticated readers would not notice the addition and would read the phrase as "over the bridge" simply because that was what the context suggested, and their brain, anticipating that phrase, simply supplied it.

With the advent of the newly developed fMRI technologies, we now can see that process clearly. For experienced, successful readers the sound–letter interpretation area (e.g., Wernicke's area) is working somewhat less than for less successful readers; in fact, the auditory discrimination areas in the brains of students with reading disabilities are working harder to decode the words in the text, whereas the more successful readers' brains are working harder in the language processing area of the brain (i.e., Broca's area), which is more directly involved with comprehension of the reading passage. Thus, once automaticity with decoding letter sounds, words, and even phrases develops, the reading process itself has changed. Helping students make that transition from letter-by-letter reading to word- or phrase-level reading is the key to developing a successful reader, and that transition usually takes place during the first three years of formal schooling.

REFLECTIVE EXERCISE 4.3
HAVING STUDENTS THINK ABOUT THEIR READING HABITS

How important is it for students to reflect on their reading? The examples of how good readers read (such as reading "over the the bridge" as "over the bridge") can provide a basis for your students to reflect on how they read whole phrases rather than individual words. You may wish to develop several additional examples of phrase reading, expose your class to these examples, and then lead a discussion in your class about developing habits of good readers such as reading entire phrases.

In this sense, sight-word strategies teach children with reading difficulties to read in the same way that more experienced readers read. In sight-word approaches, students learn to read words as a whole, and this eventually translates into reading whole phrases. In fact, this very similarity between sight-word instruction in Grades 1 and 2 and more sophisticated reading in later grades provides the basis for elementary teachers to investigate and use various sight-word instructional techniques.

LEARNING NEW VOCABULARY TERMS

The NRP report (NICHD, 2000) provides a wealth of information on vocabulary instruction. Specifically, children learn new vocabulary terms in one of two ways: indirectly or directly. Research has shown that students seem to learn most vocabulary terms indirectly. That is, students learn vocabulary in the following ways:

1. *Engaging in daily oral language exercises.* Conversations with others and hearing adults who use new and interesting words can provide a wealth of new vocabulary terms.

2. *Listening to adults read.* When adults read to children, the adult should use new vocabulary terms and point out the terms, perhaps even verbally quiz the children for a moment on the meaning of the term.

3. *Reading individually.* Students at every age should be encouraged to read to themselves outside of school time and also should be encouraged to ask questions about unknown words.

However, students must be taught some vocabulary terms directly. Specifically, terms that represent new and complex concepts which are not a part of the child's daily experience will necessitate direct instruction on the terms. Before reading a text involving new terminology, an introduction to the new terms can greatly assist students in understanding the text, as well as mastering the new vocabulary terms. The NRP report

suggests consistent, active engagement with the new terms over a period of time in order to ensure mastery and long-term retention. This repeated exposure—sometimes referred to as distributed practice—will aid not only in learning the word, but in making this word a part of the student's spoken and written vocabulary, as well as his or her reading or listening vocabulary. Only when a student can use the new word in both speech and written products will the student have complete mastery of the new vocabulary terms.

Finally, children should learn to master a set of vocabulary learning strategies such as using prefixes and suffixes, using the dictionary, or using context clues from the reading text itself to decipher new words (NICHD, 2000). With a set of strategies for working out the meaning of new vocabulary terms in text, a child will be prepared for classroom reading demands.

WORD RECOGNITION INSTRUCTION

Several of the strategies described herein first were applied in the lower grades, but are equally effective for all elementary grades in mastering the vocabulary associated with subject content courses (e.g., science, history, health). Teachers may wish to explore these strategies for vocabulary instruction in their classes.

A Picture Fading Strategy

Picture fading is a strategy that may be used in the early grades to build a repertoire of words that the student can read by sight. In this technique, a picture is paired with the noun it represents and the student is exposed to both simultaneously. Over repeated trials, the picture is gradually faded out leaving only the word (Corry & Shamow, 1972; Dorry, 1976; Knowlton, 1980). The picture fading technique usually depends on a series of cards that present a word–picture pair on each card, with the picture at the top. The cards then may be placed on a handheld picture fading board to which several pieces of translucent plastic are attached. The plastic allows the teacher to cover the picture without covering the word. The teacher presents several such boards to a child, each containing a different word for the child to master. The teacher then asks the student to pronounce one of several such words and then covers the picture associated with each word with one sheet of plastic. This plastic partially fades the picture from view, leaving the word in plain sight. After several pieces of plastic cover the picture, it is faded entirely. Complete fading usually takes five to seven trials.

Many teachers in lower grades use the picture fading technique with lower-level words—typically nouns. This idea may also be used for content pictures in upper grade levels. Nouns are easier to represent with a picture

than are other types of words, but a creative teacher may find interesting ways to use the same strategy for various action words. Teachers may apply this strategy by drawing or locating pictures of common household and classroom objects and then making picture fading cards for them.

Word Bank Instruction

Many teachers use a word bank in which 5 to 10 unknown words are enclosed and used for a minimum of one instructional activity each day. Generally, the teacher begins by having the student read a sight-word list or a list of vocabulary terms from a content area. While the strategy description below presents this concept with a sight-word list in the lower grade levels for students with reading problems, teachers who wish to use this strategy for content area vocabulary instruction easily can adapt this strategy for their classes.

While the student with learning difficulties reads the list of terms, the teacher marks the errors and stops the child when 10 words have been misread. A mark is made under the last word attempted, and that line is dated; the page is filed and will be used again as an informal vocabulary assessment measure. The 10 unknown words are written on cardboard (or light paper stock) and become the student's word bank. The cards then can be placed in a word can. Any type of personal container will do; the first author used cardboard potato chip cans and had the junior high students decorate and personalize their individual word cans. While many teachers use word bank activities for teaching sight words in lower grades, the author had junior high students use word bank activities to learn vocabulary from the various junior high subject areas that were taught by other teachers in that departmentalized school! Thus, this is a great activity for today's inclusive classrooms, in which the special education teacher supports the student in mastery of the subject content terms. Daily word bank activities may include having a student with learning difficulties do the following:

- Write each word several times
- Read them to the teacher
- Look up the words in the dictionary
- Use them in sentences or paragraphs
- Locate them in a story

The critical aspect of the word bank tactic is that the student with learning difficulties must use each word in the word bank each day for one task or another. This directly addresses the second critical aspect of vocabulary instruction noted at the beginning of this chapter—frequency of use. For students with learning disabilities or reading difficulties of

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any kind, the importance of distributed practice on these vocabulary terms cannot be overemphasized. After about two weeks the student with learning difficulties will typically be able to read these words with very little problem. At that point, the student should be praised and told to take the words home and share them with his or her parents. The word list should then be used again and another 10 words are selected for the word bank. For higher-grade students learning content area words, you may change words in the word bank as the units of instruction change in the inclusive class.

At the end of the year, students with learning difficulties will have learned a large number of new words. Further, the word list will have served as an informal assessment as well as a wonderful communication tool. The teacher will be able to show to the parents the actual word list, which indicates specifically the vocabulary level of the student at the first of the year and the succeeding mastery of various groups of words throughout the year. Parents generally respond quite favorably to specific evidence of academic growth such as that represented by this word list. This seems much more concrete than the typical test scores that schools often share with parents. The following teaching tip presents additional word bank activities that may be completed using these words.

Using Hypertext and Video Technologies to Teach Vocabulary

Computerized instructional technology offers an array of vocabulary instructional options that did not exist only a decade ago for students with learning difficulties. The NRP report (NICHD, 2000) suggested that computer technology can enhance vocabulary instruction for students with reading problems and every teacher should begin to explore applications of appropriate software for reading instruction.

For example, the use of hypertext functions allows a student reading a text to select (i.e., click on) a new, unknown vocabulary term in the text, and the software will present a definition of the term; in some cases illustrations and video demonstrations of the new term also are included. This is a highly effective vocabulary teaching tool, because the student has the information presented at the critical point at which he or she wishes to understand the term, in order to continue reading the text. This in-context vocabulary instruction is thus not only more responsive to the needs of the student with learning difficulties, but also results in more effective vocabulary instruction than many traditional methods that present vocabulary terms out of context.

With this in mind, teachers should seek out software that presents vocabulary terms in this fashion. Further, it is quite likely that, within the next few years, numerous reading texts will be computerized and will, as a matter of routine, offer these new vocabulary learning options

Teaching Tip 4.1

Activities for Word Bank Instruction

1. Look for words that have the same spelling.
2. Look for words that rhyme.
3. Look for words that may mean the same thing (i.e., synonyms).
4. Write words on cards and play a dominoes game by matching the first two or the last two letters of each word.
5. Categorize words by their type: nouns, pronouns, verbs, and so on.
6. Have groups of students write stories together using all their words.

for students with reading difficulties. Teachers may well experience a day in the near future when their basal reader is replaced by a basal reading computer disk, and teachers should certainly avail themselves of this new technology for vocabulary instruction as it becomes available. Today, many programs (though not basal reading programs) are available on the computer, and frequent use of programs that offer this hypertext function for vocabulary instruction will enhance the vocabulary development for many students with learning difficulties. Several reading programs that present vocabulary via instructional software are presented in the Resources section at the end of this book.

One additional application of technology for vocabulary instruction involves the use of video examples as anchors for the vocabulary instruction (Foil & Alber, 2002; Xin, Glaser, & Rieth, 1996). For example, when vocabulary is presented in terms of video examples, the video provides the situational context or the *anchor* for the new vocabulary term; this is referred to as *anchored instruction*. By providing video examples of an earthquake, for example, research has shown that students can master many more vocabulary terms dealing with that type of disaster than without the use of the video examples (Xin et al., 1996).

Of course, with the power of computer technology increasing, it is only a matter of time before full motion video is widely available in all classrooms, and the hypertext function described above, rather than presenting merely a definition of a word, will present that definition as well as a video example for the student with learning difficulties. Some software of this nature is available today, but the limits of computer technology on the user end (i.e., the computers in today's classrooms) usually prohibit wide application of this video instructional function. However, most researchers anticipate that this type of vocabulary instruction will be widely available in five years or so for all students with learning difficulties.

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Edmark: A Sight Vocabulary Reading Program

The Edmark reading program is a good example of a sight-word instructional curriculum. Edmark was designed to teach beginning reading and language development to nonreaders—students with learning disabilities and other reading problems. It is a highly structured program based on a whole word approach to teaching sight-word recognition and comprehension. Like many of the research-based programs, it uses a multimodality approach. Words are practiced in the context of stories with colorful full-page drawings that illustrate sentences. Language development is encouraged through planned introduction of words and development of sentence structures. Unlike many of the programs presented herein, this program does not emphasize phoneme-based instruction or letter sounds; rather, the emphasis is on mastery of whole words in context, and while this instructional approach is somewhat different than the current emphasis on phonemic- and phonics-based programs, research has clearly shown that this program works.

The Edmark reading program has been developed to fit a wide variety of student needs. Students with developmental or learning disabilities, preschool and kindergarten students who are deaf or lack vocabulary development and language awareness, students who are experiencing difficulty with phonetic-based approaches, or students for whom English is not their primary language may all benefit from this type of instruction. Lessons are presented in a direct instructional format with a one-on-one instructor for student lessons. This format allows teachers to make effective use of paraprofessionals and peer tutors. The program is available in two levels. Level 1 covers beginning skills:

- 150 words from the Dolch word list and basal readers
- Word endings: -s, -ing, and -ed
- Capitalization and punctuation skills
- Visual memory of words and sets of letters
- Left-to-right reading and tracking
- Thinking and discrimination skills
- Combined sentences for meaningful stories

Level 2 continues to practice the skills taught in Level 1. Skills then are built upon and extended to include:

- 200 additional words from the Dolch word list
- Compound words
- Words, sentences, and phrases
- Vocabulary expansion
- Reading practice

The program is available in both a print version and a software version (www.riverdeep.net/edmark). Both of these include a teacher's guide with learning objectives, classroom activities, and research references. Review and test activities are completed at 10-word intervals throughout the program. A student record book is provided to assist in tracking student progress and may be used for developing objectives for individual education plans as well.

The Edmark reading program has received wide research support since it was first published in 1971, and much of this research is reviewed on its Web site. As one recent example, Mayfield (2000) evaluated the effects of using the Edmark reading program, Level 1, to develop sight-word vocabulary in first graders who were at risk for reading failure. Three Title I schools in rural Louisiana were chosen to participate in the study. Teachers and principals identified a group of 62 first graders as at-risk based on reading test scores and teacher observations. All 62 students were pretested and were then randomly assigned to either a control or an experimental group at each school. Experimental groups received 15 minutes per day of one-on-one tutoring in the Edmark reading program for the first semester of the school year. Six America Reads volunteers who were also education majors at a local university provided the tutoring. The tutors received two hours of training in the use of the Edmark reading program. The same volunteers read aloud to the control group for 15 minutes during the same time period. At the end of the semester all of the students were administered posttests by an independent examiner. The posttest included the same reading tests as the pretest. In addition, the students were asked to read aloud the 150 words taught in Level 1 of the reading program. Based on comparisons of the pretest and posttest results, Mayfield concluded that the Edmark reading program was successful in increasing the sight-word vocabulary and comprehension skills of the students. School administrators indicated in postintervention interviews that 25% of the experimental group participants achieved honor roll during the intervention period.

This is only one example of a direct instructional program for vocabulary instruction, and other programs are available. While research supports phonemic and phonics instruction for most students, teachers may occasionally find a student for whom a sight-word approach seems to work best, and the research on Edmark suggests that for those students with reading problems this may be an appropriate instructional choice.

DERIVING MEANING FROM VOCABULARY

Many experienced teachers have encountered students with reading difficulties who seem able to decode words and learn to pronounce new vocabulary terms, but never seem to comprehend the new terms as quickly as other students. Whereas the techniques reviewed above

concentrated basically on word recognition, the following techniques address the issue of word comprehension in text, or a student's ability to derive meaning from words. In some of the strategies, correct pronunciation of the word is not addressed, because the skill is seen as less important than deriving meaning from the word in context for students with this type of learning difficulty. In other words, some of the following strategies emphasize reading vocabulary rather than speaking vocabulary. Still, numerous methods exist that address word comprehension at each elementary grade level. Some of these are useful for lower-level readers in the earlier grades, whereas other techniques may be used in Grades 4 through 7 or in subject content areas.

Graphic Organizers

Graphic organizers (GOs) assist students with learning difficulties in building vocabulary by presenting terms in a spatial relationship to other terms. This strategy addresses not only vocabulary development, but also concept development in a given unit of study (Bender, 1985; DiCecco & Gleason, 2002). In the context of this chapter, we will discuss GOs as a vocabulary development tool, but in Chapter 6 these are presented again as a content area reading comprehension tool.

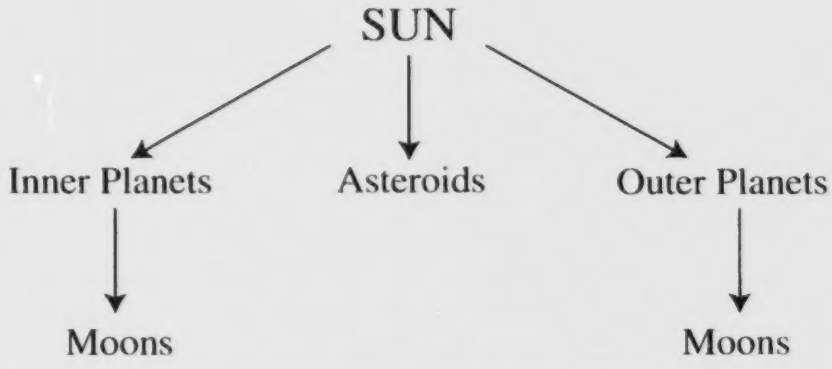
Typically a teacher will present a GO that encompasses a series of vocabulary terms representing the main concepts featured in the unit of study. A primary grade example is presented in Teaching Tip 4.2.

This example of a graphic organizer for the solar system shows—in graphic form—the basic structure of the solar system. The reading passage that this GO accompanies would indicate that the sun was the center of the solar system and that inner planets, outer planets, moons, and asteroids were objects within the solar system. The passage would have indicated that the inner and outer planets were separated by the asteroid belt, which is why asteroids are presented between inner and outer planets. Further, the reading passage also would have described the fact that inner planets, outer planets, and asteroids travel around the sun, while moons travel around the inner and outer planets. Thus, in this simple GO, moons are pictured under inner and outer planets whereas all planets and asteroids are pictured under the sun. While this GO presents merely the terms to be studied, other graphic organizers may present the vocabulary terms along with their definitions.

GOs may be developed along a variety of conceptual lines. For example, a whole-to-part GO demonstrates how a concept may be broken down or divided into component parts. Some GOs present a hierarchy of events or topics, such as the primary example above. Another type of GO involves a compare and contrast graphic representation. Yet another type of GO involves a timeline sequence of events. Finally, combinations of various organizational concepts may be used, as in this example for the upper elementary grades.

Teaching Tip 4.2

A Graphic Organizer for Primary Grades on the Solar System



In Teaching Tip 4.3., a GO on the Civil War, a number of vocabulary terms are related to their definitions and to the broader issues. These vocabulary terms include the following:

the Missouri Compromise	*abolition*
states' rights	*Emancipation Proclamation*
Nineteenth Amendment	*the Reconstruction period*

Further, this GO is an effective teaching tool for a number of other reasons. Note that the causes are described as either root (i.e., basic) causes or as immediate causal problems. Whereas the root causes were ongoing disagreements between the South and the North, the immediate causal problems (i.e., the presenting causes) include the events that immediately preceded the outbreak of the war. This dualism can provide the basis for a good class discussion on this graphic organizer, which in turn offers students with learning difficulties the opportunity to use the vocabulary terms they are learning in a discussion of basic causes and precipitating causes. Recent research has shown that GOs assist students with learning disabilities in acquiring the skills needed for application of new knowledge better than instruction without graphic organizers (DiCecco & Gleason, 2002).

Also, the concepts involved in studies of the Civil War are noted (i.e., causes, effects), and that information is coupled with a general timeline

Teaching Tip 4.3

A Sample Graphic Organizer on Causes of the Civil War

THE CIVIL WAR

Root Causes

1. Economy based on agriculture in the South versus economy based on growing industry in the North
2. Growing number of western states and the desire to keep the number of slave states and nonslave states equal (Missouri Compromise)
3. Growing movement to free all slaves (abolition of slavery)
4. Confederate citizens' distrust of power of the federal government and belief in states' rights rather than federal government power

Immediate Causal Problems

1. The election of Lincoln—a man who was sympathetic to abolition of slavery
2. Firing of shots in South Carolina and South Carolina seceding from the Union

WAR IS FOUGHT BETWEEN 1861 AND 1865

1861 →	1863 →	1864-1865
Confederate Wins the First Two Years of the War	The Turning Points	Union Victories
2 Battles of Bull Run	Vicksburg	Petersburg
The Wilderness	Gettysburg	Battle of Atlanta
Other Early Battles	Emancipation Proclamation	Sherman's March to the Sea

Results of the War

1. Economy destroyed in the Confederate States after the war ends
2. Power of the federal government over the states established
3. All slaves in the United States freed (Emancipation Proclamation; Nineteenth Amendment)
4. Union moves to rebuild the Southern States—the Reconstruction period

of the war itself. The variety of GO formats offers teachers the option of varying instruction based on the needs of the diverse students in the class. In developing a variety of curriculum supports for your students with learning difficulties, you may wish to use a simple GO organized exclusively around one organizing principle for some students with reading disabilities in your class, while you use a more complex GO, such as this Civil War example, for other students. This type of support during a reading assignment can assist students with learning difficulties in both vocabulary acquisition as well as comprehension of the material.

Also, a GO can assist children with learning difficulties in either the inclusive or the special education class setting. In the inclusive class, the special needs teacher may wish to work with a small group of students with learning difficulties and have that group jointly develop a GO for later use by all of the students in the class.

Note also that the GO on the Civil War pictures the timeline of the war in summative fashion (i.e., early Southern victories, turning points, later Union victories). Presenting these events, pictured in such a timeline fashion, makes this graphic organizer an effective memory tool for students with poor long-term memory (as demonstrated by many students with learning disabilities). All of these instructional advantages make this an effective teaching tool to emphasize the meaning of these vocabulary terms, as well as the general concepts related to this historical period. Here are several additional facts that are graphically represented, and these issues may serve as the basis for additional instruction after the reading assignment is completed.

1. The causes precede the event. Is that all it takes to be a cause? What makes one event a cause of another event in history? This is related to discussions of *historiography,* or the conceptual basis of historical study.

2. The results come after the war. Do these results become *causes* of problems later? Also, can we see evidence of unresolved issues from this war today in our society?

3. Who won most of the major battles in the first two years of the war? What evidence do we have that the Confederacy won? Who won the battle of Gettysburg? Did the Confederacy believe that their army lost that battle at the time?

4. What relationships do we see between the causes of the war and the results? Does this war end all discussion of these issues? Do we hear of the *states' rights* issue again in the history of race relations in the United States?

GOs may be developed in virtually any content field in the elementary grades and serve as one of the most effective methods for relating vocabulary to conceptual content in a fashion that is likely to enhance retention of the vocabulary terms among students with reading disabilities. There are a number of additional guidelines that teachers may use in developing GOs, as presented in the following teaching tip.

REFLECTIVE EXERCISE 4.4
STUDENTS DEVELOP GRAPHIC ORGANIZERS

Vacca and Vacca (2002) suggest using students to develop GOs. Consider the concept of scaffolded instruction as demonstrated in Chapter 1, and use that idea to develop a lesson plan for having students develop GOs in your classroom. What guidelines would you provide for students if you wanted to do this as a class activity? How could students with learning difficulties, working in groups, be used to check the work of other groups? Write down some guidelines for this type of assignment and consider using this idea in your class.

Semantic Webbing Strategy

Many students with learning disabilities and others with reading problems have difficulties which stem from difficulty in detecting the relationships between the concepts the vocabulary represents in the reading assignment. Further, those relationships often represent the basis of higher-order understandings. Thus, both the student's vocabulary and the student's sense of relationships between concepts may be weakened by poor word comprehension. The semantic web—sometimes referred to as either a semantic map or a webbing activity—can assist students in deriving meaning from words and in understanding the concepts those words represent (Bos, Mather, Silver-Pacuilla, & Narr, 2000; Bryant, Ugel, Thompson, & Hamff, 1999).

A semantic web may be considered as a form of scaffold to bolster understanding among students with reading difficulties. The web presents a central word or phrase, located in the center of the page or chart, or on the dry-erase board for classroom use. The further development of the web involves having a group of students select other words that relate to the central word. These would then be presented in other locations on the page or the board, with the locations specifically selected to demonstrate the relationships between the words. A sample semantic web is presented below.

In this semantic web, the word *galaxy* is presented as the central term. The labels of items which make up a galaxy are directly related to the central term (e.g., galactic dust, stars, solar systems), and galactic dust is directly related to stars because stars form as galactic dust

Teaching Tip 4.4

Developing Graphic Organizers

1. Select a portion of content, rich in vocabulary, which is critical to a student's understanding of the instructional unit. This material should allow for a logical pictorial depiction based on temporal, geographical, or causal relationships. In short, in order for a graphic organizer to work, there must be some logic as to the ordering of the items presented in the graph or picture to be developed.

2. Select an appropriate amount of information for your graphic organizer. Whereas some organizers may portray the entire unit (e.g., the graphic organizer in Teaching Tip 4.3 presents the basic information from a two- or three-week unit in history on the Civil War), other graphic organizers may present only a portion of the information or a selection of information from one portion of the unit of study. For example, the top portion of Causes of the Civil War may be used as a separate organizer, perhaps in a timeline sequence.

3. Select the broad topics to be presented first. This will assist you in delineating the scope of the graphic organizer. Put these down in some logical sequence.

4. Identify the points that should be presented under each of the broader points and place these on the chart.

5. Check the final organizer with the following questions and modify it if necessary.

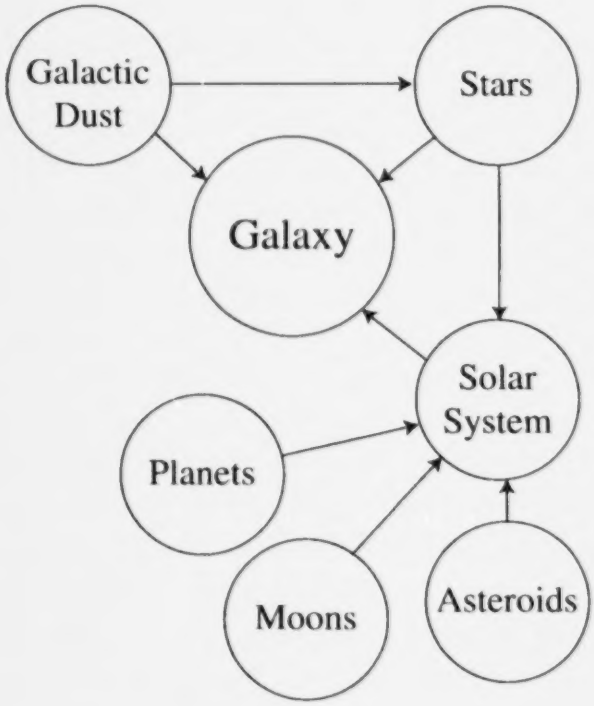
   (a) Did I present the most important vocabulary terms and information?
   (b) Is the graphic presentation sensible and explainable to students?
   (c) Can I use this as both a prestudy organizer and a review organizer?
   (d) Should I develop an organizer with more (or less) information, broader in scope?

condenses and a fusion reaction begins. Also, stars are directly related to solar systems because a star is the center of each solar system. Another circle identifies the components of a solar system (e.g., sun/star, planets, moons, asteroids), but those components are not directly related to galactic dust, since galactic dust forms stars first, and from some stars or double stars, solar systems emerge.

Additional terms and concepts also may be written on the board in separate circles and placed in proximity to each other as dictated by the underlying relationships between them. The emphasis in using the semantic web must be on meaningful relationships between the terms—note how the text above explained the relationships depicted and why

Teaching Tip 4.5

A Semantic Web



some items in the semantic web were not directly related to other items. This discussion exemplifies the type of discussion points the teacher may wish to make in the class during the semantic webbing activity. The teaching tips below present numerous ideas for developing semantic webs and using them in your class.

REFLECTIVE EXERCISE 4.5
USING KIDS TO DEVELOP SEMANTIC WEBS

Teachers may wish to consider using appropriate software to assist students with learning difficulties to develop semantic webs. This can be a wonderful reading activity for teaching vocabulary as well as the concepts described by the vocabulary. You may find appropriate software at www.inspiration.com

Teaching Tip 4.6

Using Semantic Webs

There are many variations teachers may use with the semantic web. Here are a few for you to consider.

1. You can use a semantic web for the key components of every chapter, as you begin a new unit. Leave the web posted in the room for the length of that unit.

2. Divide students into pairs and have each pair of students complete a semantic web on one portion of the chapter as you begin a new unit and then share the webs with the class.

3. Form groups of four or five students to develop a semantic web. Give each group of students the central word to begin the activity.

4. For some groups, provide the central word and a vocabulary list to be included. This provides a nice differentiated lesson for slower students.

5. Assign some students to develop an art project which presents a semantic web. In the example above, models of planets, suns, moons, and so on could be used or a collage of pictures could be obtained. The semantic web doesn't have to be words only!

6. Use a previously developed semantic web as the basis for review of the unit of study prior to the unit exam.

Semantic Features Analysis (SFA)

Vacca and Vacca (2002) recommend a strategy for students with learning difficulties called semantic feature analysis (SFA), which relates vocabulary terms to prior knowledge and to each other. In the semantic webbing strategy described above, you may have noted how the relationships between the terms in the web were emphasized in order to assist the students in memorization of those terms. In semantic feature analysis these relationships are again emphasized, in the context of likenesses and differences. In this strategy, a chart is developed and the characteristics on which terms are to be compared are listed down one side of the chart, while the terms themselves are listed across the top of the chart. The activity consists of having the students consider the terms at the top and how the characteristic or definitional aspect on the side applies to the vocabulary term. Students then indicate if that definitional aspect applies. This is illustrated in the sample in the following teaching tip. When finished, the student has a graphic depiction of the likenesses and differences between the new vocabulary terms.

In reviewing the SFA, teachers can readily see how this activity may be structured for classes or groups of objects in almost any subject area. Here are several additional examples of sets of terms for which an SFA may be useful.

1. In sixth-grade geometry problems, the parallelogram, rectangle, rhombus, and square may be directly compared, since students often confuse these shapes and the characteristics associated with each.

2. In science classes, species and subspecies may be directly compared. Differentiating between these is often quite difficult for students with reading difficulties.

3. For a fifth-grade earth physical sciences class, comparison of the different states of matter (e.g., liquid, solid, gas, plasma) using an SFA may be appropriate.

4. In studies of the solar system, SFAs on the different objects within the solar system would be useful (e.g., planets, moons, asteroids, comets, stars).

Seeing the characteristics associated with vocabulary terms with similar meanings portrayed in this fashion can greatly enhance the long-term memory of students with learning difficulties. Unlike the semantic webbing activity described above, in the SFA the similarities and differences between similar objects are directly highlighted. This can enhance understanding, since this type of pictorial representation is much easier for most students with reading difficulties to remember than merely the lists of characteristics associated with highly similar vocabulary terms. As a variation on this strategy, teachers may wish to provide a partially developed SFA to students with reading difficulties and have those students complete the SFA as they read a text passage. This strategy works in both the inclusive and the special education class settings.

A Keyword Vocabulary Development Strategy

Various researchers have presented the idea of using keywords and other similar mnemonic strategies to assist students with learning difficulties in learning new vocabulary terms (Foil & Alber, 2002; Mastropieri & Scruggs, 2002, pp. 133–136). In using the keyword method, when a student with reading difficulties is presented with a new term, he or she thinks of a keyword or alternative term that will assist in remembering the new term. Two examples suggested by Foil and Alber (2002) are as follows. For students with reading difficulties:

Vocabulary term: *Muck*

Keyword: *Yuck*

Teaching Tip 4.7

A Sample Semantic Feature Analysis

Directions for the student: Each student should consider the vocabulary terms at the top of the page and ask if the characteristic listed on the left of the chart applies to that term. Mark each column in the SFA as *true* if the characteristic applies or *false* if it does not apply.

Types of Letters

	Personal letter	*Business letter (block)*	*Business letter (standard)*
1. The date and the closing are placed halfway across the page			
2. The letter has no inside address			
3. The opening and salutation are placed on the left margin			
4. An inside address is used			
5. All sections of the letter are placed on the left margin			

In learning the term *muck,* a student might remember that it means "filth" by rhyming it with *yuck.* The student could then develop a picture in which the term was presented over a picture of a dirty horse stable.

Vocabulary term: *Mumbo jumbo*

Keywords: *Mum Jum*

In learning the term *mumbo jumbo,* a student might remember that mumbo jumbo is a meaningless ritual by picturing "Mum" (i.e., Mom) in a "jum" (i.e., gym) shooting hoops. In using the keyword method, the student may visualize a cartoon of Mom shooting a basketball and think of how remote a possibility that is—thus reminding the student of the term *mumbo jumbo* and the definition, "meaningless ritual."

In using the keyword strategy, teachers can develop certain keywords for specific vocabulary terms, or teachers may use students to develop the keywords and pictures that go with them. Students with learning difficulties have benefited a great deal from using this type of strategy for vocabulary development as well as comprehension of new concepts (Mastropieri & Scruggs, 2002).

LEARNING STRATEGIES FOR VOCABULARY MASTERY

To extend this possibility, pairing this keyword concept with a learning strategy acronym that reminds students of the steps to use when confronted with a new vocabulary term greatly can assist students. A learning strategy is a series of steps that can assist a child in performing a specific task, such as learning a new vocabulary term. Most learning strategies are represented by acronyms in which the letters represent the various steps a child with a learning difficulty should perform.

King-Sears, Mercer, and Sindelar (1992) created the learning strategy acronym IT FITS for students with learning disabilities to learn new vocabulary terms. The steps (as represented by this acronym) that a student should perform when confronted with a new vocabulary term are as follows:

- *I* *Identify* the term (e.g., *impecunious*)
- *T* *Tell* the definition of the term (e.g., *having no money*)
- *F* *Find* a keyword for the term (e.g., *penniless imp*)
- *I* *Imagine* a picture of the keyword that represents the definition (e.g., an imp of a foolish boy, finding he has no money)
- *T* *Think* about the definition and the keyword
- *S* *Study* what you imagined until you know the definition

In visualizing a picture for this keyword, the student with a learning disability may imagine a foolish looking boy with both pants pockets turned out, finding no money. Of course, in using this keyword and learning strategy, students must practice the visualization aspect of the strategy numerous times. In fact, using teams of students to complete this strategy together can add to the benefits, since students with less skill in visualization can benefit from practice with students who visualize easily. Also, students must make certain to complete the final two steps above—thinking about the definition and studying the imagined picture—until they have mastered the vocabulary term. This strategy will work well in either an inclusive or a special education class setting.

A Vocabulary Card Strategy

Foil and Alber (2002) suggested the use of vocabulary cards to assist students with learning difficulties in learning new vocabulary terms presented in reading assignments. In using vocabulary cards, students would be encouraged to create picture cards to assist them in remembering the new vocabulary term and definition. The use of pictures can result in enhancing the memory of students with learning difficulties,

because different brain areas are involved. Picture-based learning involves the visual cortex more than merely reading, and the spatial areas in the right hemisphere of the brain are more involved also. Thus, for students with learning difficulties, the brain will be more actively engaged in the reading process, and this will, in all likelihood, result in increased retention of new vocabulary terms, particularly when the students themselves create the picture cards.

Using pictures to teach words has received increasing attention and some curricula are available for this. The Web site www.vocabulary-cartoons.com presents a series of picture books and associated vocabulary terms, and many teachers have reported success in using these materials for students with reading difficulties. After you review the free sample materials, consider how you may use them in your class for students with reading problems.

A Cloze Reading Procedure

A cloze procedure can be used to emphasize the meaning of vocabulary terms in a particular unit of study for students with reading difficulties. This is one excellent way to emphasize the meaning of content terms in the upper elementary grades. A cloze procedure is a structured fill-in-the-blank activity that emphasizes word comprehension and use of context clues to decipher words (Vacca & Vacca, 2002). This strategy may be used from Grade 2 through Grade 6 or 7, in a variety of subject areas. An example emphasizing vocabulary from a social studies course is presented below.

In using a cloze procedure, the semantic and syntactic clues embedded within the reading passage serve as an aid in the student's selection of the correct content term, which would then be used to fill in the blank. Inclusive class teachers can form a cloze procedure reading activity from almost any reading selection by deleting every seventh content word (i.e., omitting words such as *a, and,* and *the* from the count of words). In contrast, teachers may merely select a reading passage and choose random content words to replace with a blank line. Not only does this force the students to read the words, but this strategy also forces students with reading problems to attend to the content of the reading passage in order to interpret the context clues. Thus, comprehension becomes a factor that is emphasized. Of course, prior to use with students with reading disabilities, the newly prepared reading selection should be checked to ensure that the blanks may be completed by using the available clues. Finally, the cloze procedure activity can easily be modified for lower functioning readers merely by providing a word bank or list of words from which the correct terms may be selected. These terms would then be matched to the particular blanks in the reading selection by the students.

Teaching Tip 4.8

A Sample Cloze Procedure for a Social Studies Unit

A _____ is the basis for most modern governments in the Western Hemisphere. In the United States the Constitution is divided into three _____ of government, and each has a separate function. The _____ makes laws, while the _____ enforces the laws. The _____ has the job of interpreting the application of the laws in specific instances. In addition to these separate functions, each branch of government has some _____ which allow it to exercise some control over the other branches of government. This system is called _____. For example, in order for a bill to become a law, the legislature must vote on it, and the president must sign it. If the legislature passes a law that went against the _____, the _____branch could declare that law unconstitutional. Likewise, if the _____ decided not to sign a law, that is called a _____ and it effectively limits the power of the legislature. Of course, the _____ can override that veto with an overwhelming vote of support for the law.

Answer key for the 12 answers required above:

1. Constitution
2. branches
3. legislative
4. executive
5. judicial
6. checks
7. checks and balances
8. Constitution
9. judicial
10. executive or president
11. veto
12. legislative branch

REFLECTIVE EXERCISE 4.6
STUDENTS DEVELOP A CLOZE ACTIVITY

Could you use students with learning difficulties to develop cloze procedures to teach vocabulary? Alternatively, could you use a heterogeneous group of students to formulate an activity that would then be completed by the remainder of the

class? Using a word processing system and a textbook with a chapter on the unit of study, you may give the group parameters such as which terms or concepts need to be embedded within the final reading selection. Having several groups working on different sections of the unit of study can generate a number of cloze procedure reading selections that may be used in subsequent years.

Concept Circles

Concept circles teach vocabulary in content areas through classification and presentation of relationships between the terms. This activity is useful for students throughout the elementary grades with reading difficulties, because it presents the conceptual basis of the relationships between terms. To develop a concept circle, one first presents a divided circle on a chart or on the dry-erase board. The teacher may divide a circle into quarters of a circle or fifths of a circle and place various terms in those separate sections. Students work in groups to describe the relationships between the ideas in each part of the circle in an effort to identify the specific concept represented (Vacca & Vacca, 2002). Students should make notes on their discussion of the concept in order to later summarize their discussion for the class. A sample concept circle is presented below.

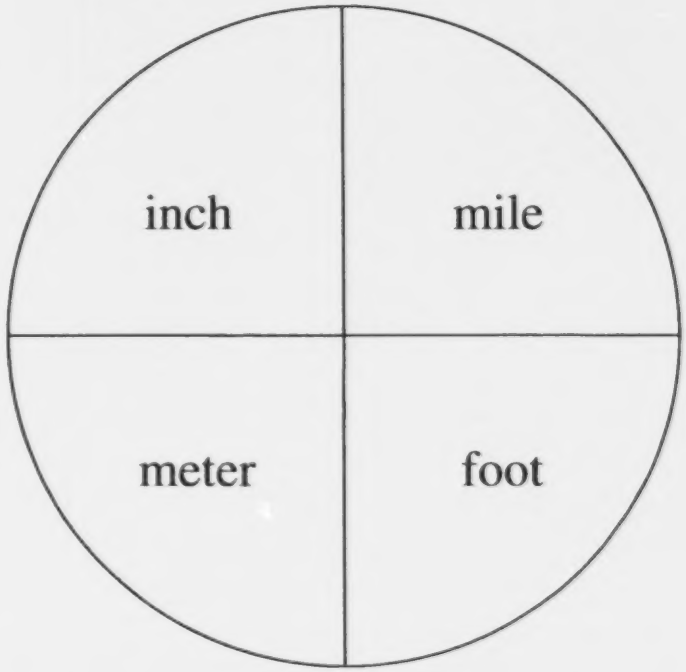
Teachers can make concept circles a more challenging task by placing in the sections of the circle a number of terms that relate to each other in a very specific way and one term that does not relate in the same fashion. This variation challenges the students to identify not only the concept, but also the term that does not fit. In this activity, various groups of students will complete the task in varying levels of complexity, and teachers often find that students can identify relationships (i.e., relevant concepts) that the teacher did not note prior to the assignment. Thus, this type of vocabulary instruction is most effective when students with learning difficulties are working in heterogeneous groups and the groups' thinking moves in different directions. The various groups should complete their thinking and discussions and present their results to the entire class.

READING FLUENCY

As students progress in the reading skills previously described—phoneme manipulation, phonics, decoding, and vocabulary development—more emphasis is placed on reading words together and on extracting meaning from the written text. As noted previously, good readers do not spend excessive time or brain energy in decoding words, but rather read entire words and even phrases together, with appropriate voice intonation,

Teaching Tip 4.9

Sample Concept Circle



pauses for punctuation, and so on. These effective reading skills are cumulatively referred to as *reading fluency.*

Reading fluency provides a bridge between word recognition and comprehension (NICHD, 2000). When students do not have to concentrate so much energy on recognition and decoding of the terms in the reading, they can invest more energy in understanding the meaning of the reading passage. This differential investment of brain energy can be demonstrated in the areas of the brain that are highly active during the reading process. If the brain of a student reading a particular passage tends to be more active in Broca's area (i.e., the language area that supplies meaning for the words read) than in the visual cortex or Wernicke's area (i.e., the areas that are first involved in visually detecting a stimulus letter and in internal phonemic recognition of the letter sound), that student is concentrating on the meaning of the reading and not on specific decoding efforts. The student would more than likely demonstrate very fluent reading skills on that particular passage.

Fluency in reading develops as a result of monitored reading practice—that is, having students read text that is relatively easy for

them and monitoring the errors. In the discussion of reading fluency, the NRP (NICHD, 2000) recognized the following levels of text difficulty:

Independent level	Relatively easy text for the reader, with no more than approximately 1 in 20 words difficult for the reader (95% success)
Instructional level	Challenging but manageable text for the reader, with no more than approximately 1 in 10 words difficult for the reader (90% success)
Frustration level	Difficult text for the reader, with more than 1 in 10 words difficult for the reader (less than 90% success)

The NRP suggested that students should be able to correctly read 95% of the words in a reading passage (i.e., making errors on only 1 in 20 words) in order for the passage to assist the student in developing reading fluency (NICHD, 2000). Further, the various instructional strategies that the NRP identified as effective for developing reading fluency involve having someone monitor the oral reading of the student in one fashion or another. Thus, either self-monitoring or teacher-monitored oral reading can greatly assist students in building reading fluency (NICHD).

There is a surprising finding of the NRP related to current practice. The NRP found that there was a lack of support for silent reading programs as an effective reading instructional tactic. Students can benefit from reading aloud for someone, because a teacher, tutor, paraprofessional, or peer buddy can hear and correct the errors. However, in silent reading, there is no error correction procedure, and research has not documented the effectiveness of silent reading programs, such as the Silent Sustained Reading (SSR) or Drop Everything and Read (DEAR) programs. While these sustained silent reading programs are widely implemented around the nation, there seems to be little research evidence that demonstrated that these programs are effective in developing reading skills. Rather than implementing these silent reading programs, the research supports monitored oral reading, and a variety of tactics can be used to provide monitoring of the oral reading of students with reading problems. These include the following suggestions:

Student–Adult Reading	A student reads one-on-one with an adult. The adult reads the text first, providing a model for the student, and the student then reads the text until the reading becomes fluent—perhaps three or four times through the passage.

Choral Reading	In choral (or unison) reading, students read along as a group.
Tape-Assisted Reading	In tape-assisted reading, students read along as they hear a fluent reader read the book on audiotape. On the first reading, the student should follow along with the words and point to each word as it is read. Next, the student should read along with the tape several times.
Partner Reading	In partner reading, paired students take turns reading aloud to each other, and more fluent readers may be paired with less fluent readers. Each partner may provide assistance to the other.

A Repeated Readings Strategy

You may have noticed that each of the reading strategies mentioned above involved repeated readings of the same passage until fluency was achieved. Simply stated, one of the most effective ways to increase reading fluency among students with reading difficulties is repeated reading (NICHD, 2000). This strategy involves having the student repeatedly read the same passage between three and seven times in order to achieve fluency in the passage as well as learn any specialized vocabulary terms that may be included in the passage. In inclusive classes, the special needs teacher, or perhaps a peer buddy, should be assigned to monitor these repeated readings for students with learning difficulties.

In using a repeated readings strategy, the reading passages must be presented at the independent level for the student; that is, a student should be able to read a minimum of 95% of the words correctly initially. The student should be expected to repeatedly read the passage until he or she reaches the criteria of 100% correct on the words in the reading passage. Help with unknown vocabulary words should be offered, either by the teacher or by a peer buddy.

Research on the use of repeated readings has documented that this strategy increases reading fluency for students with reading disabilities in elementary grades (Mastropieri, Leinart, & Scruggs, 1999; NICHD, 2000). Mastropieri and her coworkers (1999) offer several additional guidelines for using this strategy, as presented below.

CONCLUSION

This chapter has presented a series of strategies for increasing vocabulary and reading fluency for students with reading difficulties in both early reading and during the later elementary years. In each instance, the importance of exposure to new vocabulary terms, their pronunciation

Teaching Tip 4.10

Ten Steps for Implementing a Repeated Reading Tactic

1. The teacher should explain to the student how reading practice will help the student read more fluently and understand the content vocabulary better. This tactic typically will lead to less embarrassment in inclusive classes for many students with reading problems. Further, most students with reading problems will be highly motivated to use this tactic, if it is presented in this fashion.

2. The teacher and each student should select an appropriate reading rate goal, and each goal should be stated in terms of words read correctly per minute.

3. Based on the reading instructional level for each individual student (i.e., the reading level at which the student accurately reads a minimum of 90% of the words correctly), the teacher and the student should select reading passages for use in the repeated reading tactic.

4. The teacher should calculate the reading rates for each student. Divide the number of words a child reads correctly in a reading selection by the number of minutes or seconds it takes to read the section.

5. The teacher also should teach students how to calculate, record, and interpret their own reading rates.

6. Tell the students to choose a story that interests them and practice reading the story or reading selection alone, or with a buddy if you wish to use the buddy system. Students should read the story a minimum of three times. If reading the story alone, students should jot down each vocabulary term that they need help with, and between each reading, the teacher or a peer buddy should review those words with the student.

7. Students should be encouraged to ask for help when needed in pronouncing words during the first three readings. This will assist them in learning the new vocabulary terms.

8. After practicing three times, the student should read the story again, as fast as possible, while using a stopwatch or clock with a second hand to time him- or herself.

9. After the final reading the student should record the time on a graph.

10. The student should be encouraged to compare that performance with the reading rate goal set earlier and also with previous performance.

and meaning, and the students' repetitive use of newly mastered words have been emphasized. These two emphases—introduction to new terms and repetitive use—are the critical components of vocabulary instruction (NICHD, 2000) for each of the four types of vocabulary. The importance

of vocabulary development was discussed and emphasis was placed on learning several techniques for increasing vocabulary. Several of these strategies represent ideas used in kindergarten and first grade that can also be applied in the upper elementary grades to help students with learning difficulties master vocabulary terms.

Next, vocabulary development was presented as a critical reading skill, since in almost every elementary school subject, a specialized vocabulary is used to represent the foundational concepts and constructs. Thus, having a limited ability to learn vocabulary can severely limit one's comprehension in virtually every subject area. A series of strategies have been described, including using graphic organizers, semantic webbing, SFAs, keyword learning strategies, cloze procedures, concept circles, and repeated reading strategies. Using one or more of these strategies to strengthen vocabulary in each unit of study will result in increased variation of instruction and in increased academic progress for students with reading difficulties, as well as every other student in the class. These strategies should enable teachers in virtually every elementary grade to invest time in vocabulary development, while strengthening their students' understanding of the complex constructs involved in the lessons.

Finally, several strategies were presented to assist students with reading disabilities to develop reading fluency during the elementary years. Strategies include monitored reading practice, as well as repeated readings strategies. With an emphasis on reading fluency as aggressive vocabulary development, most students in the elementary grades will progress nicely in their reading endeavors.

WHAT'S NEXT?

As readers become more sophisticated, the emphases in reading instruction change, as do the techniques and brain capacities involved in reading. From approximately Grade 3 onward, the focus of a great deal of reading instruction is not on developing reading skills themselves, but on developing comprehension of the content covered by the reading. The next chapter focuses on a variety of strategies to facilitate content comprehension in Grades 3 through 7.

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5

Gaining Meaning From Reading

Strategies Presented in This Chapter Include

- ✔ Story Grammar
- ✔ Student Think-Alouds
- ✔ Question Answering
- ✔ Gist Summaries
- ✔ Improvisational Drama
- ✔ Coop-DIS-Q (Cooperative Discussion and Questioning)
- ✔ Collaborative Strategic Reading
- ✔ Bibliotherapy

READING COMPREHENSION AND THE BRAIN

The ultimate goal of reading is to develop children's ability to gain meaning from text or to comprehend what they have read. The National Reading Panel (NRP) indicated that one gains meaning from text when engaged in "intentional, problem solving thinking processes" (NICHD, 2000, p. 14). To enhance text comprehension, readers need to relate actively the ideas contained in print to their own background knowledge and then construct mental representations in their memory; this active engagement is one cornerstone of the brain compatible instruction research described previously. As noted in Sousa's (2001) model of reading described in Chapter 1, when an individual encounters a word in

text, several things must happen in order for meaning to be associated with that word. First, the word is recorded in the visual cortex and then decoded by the angular gyrus to separate the word into its basic sounds or phonemes. Then the word is identified by activation in Broca's area. Finally, the brain's vocabulary store, reasoning, concept formation abilities, and activity in Wernicke's area combine to give meaning to the word. Thus, all parts of the brain must process information accurately in order for appropriate meaning to be attributed to the word.

Students who have learning difficulties may process information differently and thus struggle with reading comprehension. Some of these students may have difficulty with input or receiving the information (i.e., the students struggle to get information into the brain). Others get the information into the brain, but then have processing problems once the information is there. Still others get the information into the brain and process it appropriately, but have problems with output or expressing the information in oral or written form. Sousa (2001, p. 94) indicated that students with learning difficulties might manifest deficits in reading comprehension in the following ways:

- Do not understand the words used in the text
- Do not have adequate background information about text information
- Are not familiar with semantic and syntactic structures that help predict relationships between words
- Are not knowledgeable about writing conventions (e.g., humor, explanation, dialogue)
- Cannot read between the lines to infer meaning
- Have difficulty remembering information

The NRP further noted that reading comprehension could be improved by the explicit teaching of specific cognitive strategies (NICHD, 2000). The strategies enable struggling readers to "reason strategically" when barriers to their understanding arise (NICHD, p. 14). One key to the success of these strategies is teacher demonstration or modeling of the strategies for the students until the students can perform the strategies independently. Teacher demonstration and modeling are part of the scaffolding process discussed in Chapter 3. Thus, students receive more support when they are learning new or difficult information and as they begin to show mastery of the information, the support gradually is removed. Scaffolded instruction can be beneficial to all students, but especially is crucial for students with learning difficulties.

The NRP conducted an extensive literature review of studies published since 1980 in which they identified seven categories of text comprehension instruction that are supported by research (NICHD, 2000, p. 15):

- *Comprehension monitoring,* where readers learn how to be aware of their understanding of the material
- *Cooperative learning,* where students learn reading strategies together
- *Use of graphic and semantic organizers (including story maps),* where readers make graphic representations of the material to assist comprehension
- *Questioning answering,* where readers answer questions posed by the teacher and receive immediate feedback
- *Question generation,* where readers ask themselves questions about various aspects of the story
- *Story structure,* where students are taught to use the structure of the story as a means of helping them recall story content in order to answer questions about what they have read
- *Summarization,* where readers are taught to integrate ideas and generalize from the text information

Evidence from the NRP's literature analysis suggests that reading comprehension strategies should be taught in combination as a "multiple-strategy method" (NICHD, p. 15). Younger students with learning difficulties may benefit from learning the various substrategy routines and then later combining them into a multiple strategy.

This chapter will present an array of reading comprehension strategies for elementary through middle grades. Each of these strategies includes several of the seven levels of text comprehension instruction supported by the NRP. Teachers may use this chapter by reading it from beginning to end or by selecting one or two strategies and reading only about these. After a brief introduction the following topics will be addressed for each strategy: (a) what is this strategy? (b) why use this strategy? and (c) how can teachers use this strategy? The sections detailing how teachers and students can use the strategies are divided into the following subheadings: (a) advance preparation, (b) before reading, (c) during reading, (d) after reading, and (e) follow-up activities. Many of the strategies discussed in this chapter are presented as being used with a whole class, but can be adapted easily for use with small groups or individuals. Also, the strategies are presented as all class members reading the same passages. If the intent is to promote listening comprehension, then it may be likely that students with diverse reading abilities can hone their listening comprehension skills by all hearing the same passage read aloud. Instead, if the intent is for students to practice comprehension skills from silent reading, then reading passages will need to be selected to meet individual student needs. Once again, the strategies presented are flexible enough to be adapted for students' various abilities.

REFLECTIVE EXERCISE 5.1
SELECTING NEW COMPREHENSION TACTICS

Review the list of comprehension tactics from the NRP and make notes on the tactics already in use in your class. Be sure to distinguish between tactics that are built into the text and curriculum and tactics that you initiate. Based on this, which additional tactics would you like to try? Also, visit the Reading Lady Web site (http://readinglady.com/Comprehension/Strategy_Posters/strategy_posters.html) to find printable posters (e.g., asking questions, visualizing, repairing comprehension) to supplement your comprehension lessons.

You can use any of the following strategies and tactics to help students with learning difficulties learn and practice comprehension skills and to help you evaluate their comprehension mastery. As appropriate, try to incorporate various types of comprehension practice into the strategies. Some students will need to focus on *literal comprehension*, such as lessons in story context, sequence of story events, main ideas, and essential details. Others are ready for *inferential comprehension* in which they determine cause and effect, predict events, and express characters' perspectives. Still others are ready for *critical comprehension* activities such as demonstrating moral or aesthetic concerns, analyzing the author's intent, or providing evidence of literature appreciation (Choate, Enright, Miller, Poteet, & Rakes, 1995). Although students with learning difficulties may struggle with literal comprehension, the abstract nature of inferential and critical comprehension tasks can be quite challenging for them.

STORY GRAMMAR

Struggling readers and students with learning difficulties may have difficulty with reading comprehension because they do not understand the structure of the story. They cannot identify the main character(s) of the story or the plot. They may not know how the character(s) feel about a particular problem or story event. These readers may be able to identify isolated details about a story, but often the details they can identify may be interesting trivia rather than ideas essential to the story. Story grammar reflects story structure just as English grammar reflects language structure (Hagood, 1997).

What Is Story Grammar?

Story grammar is a cognitive structure that aids the comprehension of simple stories (Hagood, 1997) by identifying story elements and their temporal and causal relationships (Montague & Graves, 1993). It provides

Teaching Tip 5.1

Teaching Reading Comprehension Strategies

Begin by teaching one or two strategies at a time. Introduce new strategies only when strategies taught earlier are well established. Teach strategies to students in context where they are expected to practice reading comprehension, not as a separate part of the curriculum.

1. Start with materials at easier reading levels to ensure initial success. Then assist students using the same comprehension strategy with more difficult materials.

2. Individualize instruction by deciding (a) what strategy will be most beneficial to a particular group of students, (b) what type of self-regulatory procedure is appropriate for each student, and (c) the manner in which feedback should be given to the student to monitor his or her progress in using the strategy and in reading comprehension.

3. Scaffold instruction by fading instructional supports (e.g., prompting) as students demonstrate competency in using the strategy. This may be difficult to do because students may be unsure if they are using the strategy correctly for a while.

4. Students with learning and reading disabilities must be taught explicitly to generalize strategies or to be able to apply them in a variety of settings. Teachers can help students to generalize learned strategies by showing students how to monitor their progress.

SOURCE: Adapted from Swanson and DeLaPaz (1998).

a set of rules to identify the important story ideas and a method for analyzing stories into their meaningful parts. Story grammar can help struggling readers to become efficient readers by establishing a framework to keep track of important component parts in the story. These parts often consist of (a) a setting, (b) a problem experienced by the main character(s), and (c) the events that occur as the main character(s) attempt to solve a problem (Hagood). The Web site www.teachervision.com/lesson-plans/lesson-6302.html provides a printable version of a story elements graphic organizer suitable for Grades PreK–5. For a completed version of an elementary story map see http://library.thinkquest.org/T0110475/storymap.htm

Why Use Story Grammar?

Hagood (1997) noted that story grammar strategies can help elementary students improve their reading and writing skills, particularly

those students who are low achievers or have learning disabilities. Gardill and Jitendra (1999) found that direct instruction in story mapping improved the reading comprehension of middle school students with learning disabilities. When teachers provide detailed and explicit instruction as well as repetitive experiences of analyzing and manipulating story grammar, it helps students to internalize a story's structure (Hagood). The internalization of a distinct organizational structure aids both the reading comprehension of and the writing of narrative stories.

There are a variety of story grammar strategies from which teachers may choose including (a) self-questioning, (b) story maps, (c) comparing and contrasting similar stories, and (d) manipulating story grammar elements (Hagood, 1997). These strategies can be used as part of the regular curriculum, making sure that students receive explicit instruction (e.g., teacher modeling, teacher guidance, and repetition; Gambrell & Chasen, 1991). Hagood noted that story grammar strategies such as these could help teachers to meet students' individual needs. In self-questioning, students learn to use a set of standard questions to guide story reading to help them identify the important story elements. Students with learning difficulties may need a more concrete structure such as a pictorial story map to help them to visually recognize and organize key story elements. A story map helps students establish relationships between their background knowledge and the reading passage by focusing on the text structure (Hagood). Idol and Croll (1987) indicated that students who use a story map during reading could improve their ability to categorize relevant information. Davis (1994) found that third graders who used a prereading story mapping procedure improved both their literal and their inferential comprehension. Hagood noted that book discussions such as comparing two books on similar topics help students to grow as readers and learners. Idol and Croll also indicated that students can internalize elements of story grammar through writing and drawing. The levels of comprehension instruction included in story grammar are (a) cooperative learning, (b) graphic and semantic organizers, (c) question answering, (d) question generation, and (e) story structure.

How Can Teachers Use Story Grammar?

Four tactics for using story grammar will be discussed: (a) self-questioning, (b) story maps, (c) analyzing and comparing elements of similar stories, and (d) manipulating story grammar elements.

Self-Questioning

Advance Preparation. The teacher will select a familiar story to read aloud to the students and write questions such as the following on the board (Hagood, 1997):

1. What is this story about?
2. Where does this story take place?
3. What is the problem in this story?
4. What happens while the main character in this story is trying to solve the problem?
5. How is the problem solved?
6. How does the main character in this story feel about the solution?

Before Reading. You should introduce the students to the story and to the questions on the board. Be sure to appeal to both visual and auditory learners by writing the questions on the board and reading the questions aloud. You can let students know that we will read the story to enjoy it as well as to answer the questions on the board, thus establishing a purpose for reading. You will need to indicate that the questions will help them to identify and remember important information about the story. Such explicit statements help students with learning difficulties to understand the purpose of the task and focus on the teacher's expectations.

During Reading. You should read the story aloud and model answering the questions while you are reading. The teacher shows students how a good reader refers to the questions while reading in order to determine if any important information can be gleaned to help answer the questions. You will need to scaffold the amount of assistance you provide to students in this phase. Once students seem to understand how to proceed with self-questioning, you then can have them read a story aloud and attempt to answer the questions. Finally, students should read silently and independently answer the story questions. This scaffolding or gradually turning responsibility for self-questioning during reading over to the students may take several lessons. You should not take away assistance until you are sure that students will be successful with less assistance from you. The teacher always should be available to provide support when needed. Students with learning difficulties may need more help than others.

After Reading. You will need to reinforce the idea that self-questioning during reading is a strategy that good readers use to help them learn and remember important information about the story (i.e., main character(s), setting, and plot or problem solution). You will indicate, too, that focusing on the questions prior to and during reading may reduce the amount of effort later in trying to answer the questions. This particularly may be appealing to students with learning difficulties who might put forth a great deal of time and effort, but make little progress because they likely will use ineffective and inefficient strategies unless they are taught better strategies.

Follow-up Activities. Once students are familiar with the typical questions that they should ask themselves while reading each story, you can have them generate additional questions that may help them learn important information about other familiar stories. This activity will help them to follow a basic story grammar structure, but also to vary it when appropriate.

Note, however, that although this story grammar strategy as presented is used with whole class instruction, it may be adapted for use with small groups or individuals. Students with learning difficulties may benefit from working with a partner or in a small group to generate and discuss answers to the questions. These students need to be exposed to the kind of thinking that "good readers" do.

Story Maps

Advance Preparation. The teacher will prepare the story map to be used in the lesson. Hagood (1997) suggested listing the following headings on the story map: (a) characters, (b) setting, (c) problem, (d) events, (e) solution, and (f) how do the characters feel about the solution? A story map graphic organizer can be found at www.smcps.k12.md.us/mbms/writing/storymap.html

Before Reading. You will need to show the students a copy of the story map that will be used in the lesson and discuss each element on the map. Students with learning difficulties need to be exposed to "whole to part to whole." In other words, they need to be given an overview about the story map, given a demonstration of the parts in detail, and finally shown how the parts relate to each other to form the story map.

During Reading. You can model using a story map as you read the story aloud (Hagood, 1997). Reading the story aloud enables all students to hone their listening skills and eliminates the pressure for students with learning difficulties who are not fluent readers. You should follow a similar scaffolding procedure as listed for the self-questioning strategy. That is, gradually turn over responsibility for using the story map as students are ready to accept this responsibility. Once you have modeled using a story map, you will guide the students using a story map while either you or they read a story aloud. You may want to work with students who are struggling in a small group to read the story aloud, before asking them to do so individually. You must make sure to stop students at specific points in the story in order for them to identify the element that has just been read. If students give incorrect responses, then you should provide feedback to guide them to the correct response. Sometimes students with learning difficulties believe that task completion is the only objective of the lesson. By stopping a lesson at specific points in the story to identify and discuss story elements, students can

learn that the task involves certain critical steps along the way. Finally, when students are ready, you can have them complete the story maps independently during silent reading. Your goal should be to eventually phase out the story maps without decreasing students' level of comprehension (Hagood). Keep in mind that reducing the scaffolding or support may take several lessons and some students may continue to need more support than others. Some students with learning difficulties may find that the visual representations which story maps provide are something that they need to aid story comprehension.

After Reading. Some students may benefit from reviewing their completed story maps. Review may help them to see how all the story elements are tied together to form the big picture of the story. The review may help them to avoid getting lost in the trees (i.e., focusing too much attention to details and losing sight of the main ideas) as students with learning difficulties may have a tendency to do.

Follow-up Activities. Once students have learned to use story grammar to aid their reading, you should teach them how to use it to increase their writing skills. Some students have trouble organizing narrative stories that they create (Hagood, 1997). When they are shown how to organize their ideas into writing for a specific audience, students likely will gain greater appreciation for all stories and receive pleasure from engaging in the writing process.

Another variation on the use of story maps is to include characters' perspectives. Stein and Levine (1990) stated that 9- to 11-year-old readers focus more on *what* occurs in the story rather than *why* the particular things are occurring. Also, even young children respond to story characters using knowledge of their own culture and familiarities (Emery, 1996). Readers who are 7 to 11 years old consider the main character's perspective rather than recognizing multiple perspectives and relationships. Story maps with character perspectives can help students understand why things happened in the story and how characters may have perspectives different than their own (Emery). A reproducible blank chart on the next page will help students focus on multiple perspectives in stories. Feel free to copy this chart for use in your class.

Still another variation in using the story map is cooperative story mapping. Mathes and Fuchs (1997) suggested that heterogeneous groups of three to five students working together using a story map could improve their reading comprehension in a learning environment where all students are placed in roles of academic value. Prerequisite skills for cooperative story mapping include familiarity with story grammar elements, knowledge of how to map a story, and knowledge of how to work in a cooperative group. Note that students with learning difficulties

Focusing on Multiple Perspectives

Character 1's Perspective	*Story Event*	*Character 2's Perspective*

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Teaching Tip 5.2

Questions to Prompt Discussion and Aid Story Map Completion

To help students focus on why something happened rather than what happened:

Why did _____ act in this way?
What was _____ thinking when this occurred?
What did _____want at this point?
How does _____ feel now?

To help students consider the character's perspective rather than their own:

Is that the way you would have felt?
In what way is _____ different from you?
Since _____ is different in this way, how do you think he felt?
Let me reread some of the parts that may help us understand why _____ might respond differently than you would.

To help students focus on the story as a whole rather than just one particular part of the story:

What else might _____ be thinking? Be feeling?
Think about what's happened in the story so far that clues us in to other feelings that _____ might be having.
What about the part where _____ did __ and __ in the beginning?
What does that tell you about what she or he might be thinking now?

To help students focus on other perspectives rather than just one character's perspective:

We mentioned *(character 1)*, what about *(character 2)?* How was he or she feeling?
What did *(character 1)* believe that *(character 2)* was thinking/feeling/wanting?
What did *(character 2)* believe that *(character 1)* was thinking/feeling/wanting?
When *(character 1)* did that, how did he or she think that *(character 2)* would react?
What was *(character 2)* believing about *(character 1)* when he or she did that?

SOURCE: Adapted from Emery (1996, p. 539).

can benefit from explicit instruction in how to work in cooperative groups prior to working in small groups with their peers. Like in traditional story mapping, students read and review (or skim) the same story. Then they complete the story map in their groups. Each student serves as a leader for one story element such as main character or setting and one major event. Student 1 may be the leader for the main character and the first major event while Student 2 is the leader for the setting and the second major event, and so on. Although leadership roles change

weekly, the leader responsibilities remain constant. Mathes and Fuchs (1997) stated that all students are taught the following leader routine:

1. *Tell.* The leader tells the answer for a specific story part and presents evidence in support of his or her answer.

2. *Ask.* The leader asks other students in the group to share their answer. All must present evidence to support their answers.

3. *Discuss.* The leader guides group members to discuss the story part and ensures that, in each instance, they attempt to reach consensus. When the group cannot agree, the leader has final say.

4. *Record.* The leader records the group's answer.

5. *Report.* The leader reports the group's answer for the story part.

Comparing and Contrasting Similar Stories

Advance Preparation. The teacher should make sure that students are familiar with the different kinds of story elements. Helping your students work through the self-questioning and story map strategies mentioned previously will give them exposure to story elements prior to trying to analyze and compare them. You will prepare a comparison table that includes the five story elements being discussed (i.e., characters, setting, problem, events, solution). Feel free to reproduce the blank comparison table on the next page for use in your class. Hagood (1997) stated that the table provides an advance organizer for the activity. You also might like to visit the following Web site for another version of a comparison table suitable for Grades PreK to 5: www.teachervision.com/lesson-plans/lesson-6300.html

Before Reading. Show the students a copy of the table that will be used for the activity and talk about the kind of information that they will need to find during the reading of the story.

During Reading. To expedite the activity, you may want to read one or both of the stories aloud to the class and ask them to listen for key story elements. Hagood suggested reading a book such as *The Egyptian Cinderella* (Climo, 1989) to compare with the traditional Cinderella story. You can model how to fill in the graph showing the comparison of the two stories. Students can help you complete the graph as they discuss the similarities and differences of the stories.

After Reading. Like with story maps, some students may benefit from reviewing the completed comparison table. Review may help them to see how stories can be alike and different at the same time.

Comparison Chart for Comparing and Analyzing Story Grammar Elements

Story	*Characters*	*Setting*	*Problem*	*Events*	*Solution*

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Teaching Tip 5.3

Facilitating Student Discussion After Completion of Story Map

Mathes and Fuchs (1997) made the following suggestions to help the teachers to facilitate student discussion following groups' completion of the story map.

1. Ask members of a cooperative group to report their answer, restate the answer, and then ask if another group has a different response.

2. Discuss disagreements in a nonjudgmental fashion so students feel comfortable about sharing opinions.

3. Encourage the class to discuss conflicting answers using the text as evidence.

4. Ask why some answers may be better than others, providing help when necessary.

5. Lead students to agreement using the term *our answer* to provide the class with a sense of collaboration and ownership.

6. Review why story elements are important and how they are related to each other in the course of discussion.

7. Discuss the four major events as one unit of common elements listed in a correct basic sequence.

Follow-up Activities. Once the teacher and students have worked together to complete the comparison table of two stories and students appear to be comfortable with this activity, then some of the scaffolding or teacher support can be removed. You may choose to read new stories to the students, have them read the stories independently, or have them work in small groups to read the stories for comparison. Then either ask the students to form groups or designate teacher-selected small groups to complete the comparison chart. Make sure that students understand what they are being asked to do. Another form of scaffolding that might be provided is to gradually move the students when appropriate into comparing books that are less concrete (Hagood, 1997). Students with learning difficulties may have difficulty with abstract ideas, so they may need a lot of support when working with books that are less concrete. Also, you might try using a different format for comparison (i.e., instead of a comparison table) such as a Venn diagram (PreK–12), which can be found at www.teachervision.com/lesson-plans/lesson-2281.html or www.smcps.k12.md.us/mbms/writing/vennd.html

Manipulating Story Grammar Elements

Advance Preparation. In order to make sure that students are familiar with the different kinds of story elements, you may want to help them work through the self-questioning or story map strategies mentioned above prior to trying the manipulate story grammar elements strategy.

Before Reading. Inform students of their assigned task after reading or reviewing a familiar story. If students know in advance what they will be asked to do, they can pay attention to important story points and be thinking about how they might like to change an element of the story by drawing, retelling, or rewriting it. This is a crucial step in scaffolding instruction for students with learning difficulties. Since they may need more time to process information, letting them know the teacher's expectations in advance gives them the extra time needed to process information quickly.

During Reading. You will reread or review a familiar story. Students or the teacher may do the rereading. Although students may be familiar with the story, rereading or reviewing it may help them to have key points fresh in their minds and to recall some important information that they may have forgotten otherwise. An additional benefit for students with learning difficulties is that rereading a familiar story enables them to boost their reading confidence level and work on fluency.

After Reading. You will need to make sure that students understand the task that they are to perform. For example, Hagood (1997) suggested that you ask students to rewrite the traditional story of *Goldilocks and the Three Bears* by changing the setting to Alaska or letting students choose a new setting for the story. Story redrawing, retelling, or rewriting enables students to activate their background knowledge and tap into their imaginations. If a student recently had taken a trip to another state or had seen a movie filmed in a different region of the United States from where the student lived, then the student may be able to incorporate some of his or her new knowledge about geography with the familiar story. As with any new task that a teacher asks students to perform, you will need to model how to do the task. Hagood noted that the teacher modeling might include making story adjustments such as giving Goldilocks a heavy coat and hat to wear in Alaska. Also, Goldilocks may have been lost due to a snowstorm, and the three bears may have been polar bears that lived in an igloo.

Follow-up Activities. Once students have practiced changing one story element, then the teacher and students can experiment with changing others such as the characters (Hagood, 1997). Give your students opportunities to share their versions of the stories with their

peers in order to compare and contrast how they manipulated various story grammar elements. Such sharing can encourage students with learning difficulties to take risks with their learning. Students will be exposed to different kinds of thinking and reasoning as they share how they manipulated story grammar elements.

STUDENT THINK-ALOUDS OR INFERENCING SUBSTRATEGIES

One reading comprehension strategy that will help students with comprehension monitoring is student think-alouds. Teachers have been encouraged whenever possible to share their thinking with their students in order for students to learn new information and to have good thinking procedures modeled for them. Wilhelm (2001) exposed his students to teacher think-alouds (i.e., teachers sharing their expertise), and then he expected his students to borrow the teacher's strategy and apply it to their own reading. He created a chart to help students practice thinking on their own. Students were instructed to check off when they practiced particular substrategies, to make comments to share their thoughts, and to set goals for future strategy practice. A blank reproducible chart is provided here for you to copy and use in your classroom.

Although Wilhelm (2001) did not suggest having students put the date on their strategy checklists, this would provide the student and teacher with a running record of what reading comprehension strategies students are using and what goals they are setting. Completing strategy sheets such as this one helps students to monitor their own comprehension. As noted by Manning (2002), readers of any age need to be aware when they are not creating meaning while reading. Self-monitoring helps students to select and use appropriate strategies for improving their comprehension. Comprehension monitoring was one of the seven critical categories of text comprehension instruction mentioned by the NRP (NICHD, 2000). The think-aloud strategy and inferencing substrategy can be used to enhance other strategies mentioned in this chapter.

QUESTION ANSWERING

In order for students to be able to answer questions about what they are reading, they need to determine how they will obtain the information being asked of them. Raphael (1982) identified four types of questioning strategies that students should learn: (a) right there, (b) think and search, (c) author and you, and (d) on my own (p. 378). Casteel, Isom, and Jordan (2000) used these strategies to prepare an answering questions strategy reference card to remind students of possible ways to

Student Inferencing Substrategies

Name_____ Date_____

Story_____ Author_____

Inferencing substrategies	*Did I do it?*	*Comments*	*Goal*
Accessing background and connecting it to reading			
Making predictions about future actions			
Filling gaps in the story			
Adding things together to see connections			
Elaborating beyond the story			
Asking "what if?" questions			
Visualizing			

SOURCE: Adapted from Wilhelm (2001).

obtain an answer to a question about the material they are reading. A reproducible modified version of that reference card may be found on the next page.

Both the right there and the think and search strategies require locating literal information (Casteel et al., 2000). For example, right there and think and search questions might include, "How was the main character described in the story?" and "Where did the story take place?" The author and you strategy requires students to infer or evaluate the answer based on the author's ideas and their own background knowledge. For example, "Why did the main character have trouble communicating how he or she felt about the problem?" The on my own strategy gives students an opportunity to answer questions based on their own knowledge such as opinion questions. An example of an on my own question is, "What do you think that the old man could do to help the boy with his problem?" Students with learning difficulties may have more success with locating literal information, although they might need to be taught explicit strategies for finding the information. Work with individuals or small groups of struggling students to help them learn how to respond to author and you type questions. They may need many teacher prompts to guide their thinking through this process. Perhaps if students learn the cues for opinion questions (e.g., what do you think, how do you feel, in your opinion), then they will recognize that they need to share their own thinking. The question answering strategy may be used in conjunction with other strategies covered in this chapter.

GIST SUMMARIES

Gist summaries encourage students to use single sentences to summarize information contained in single paragraphs (Swanson & DeLaPaz, 1998). To teach students how to create a gist summary, model for them how to restate information using the fewest number of words possible. Begin by having students summarize two sentences of text using 15 words or less. Then make the task more difficult until students are able to summarize an entire paragraph using 15 words or less. Provide students with guidance and feedback in order for them to learn to retell only the most crucial information. You may want to help students set goals (e.g., the maximum number of words to use in one sentence when creating a gist summary). The gist summaries strategy may be used along with other strategies mentioned in this chapter.

IMPROVISATIONAL DRAMA

Students who have learning difficulties and struggle with reading may be reluctant to participate in classroom reading activities because they

Answering Questions **How do I do it?**
Right There I can find the answer in one place in the book.
Think and Search I can find the answer in the book, but all of the answer won't be in the same place.
Author and Me I have to use what the author wrote and what I know to answer the question. I have to "read between the lines".
On My Own I can answer the questions by using what I already know about the topic.

SOURCE: Adapted from Casteel, Isom, and Jordan (2000).

dislike reading and fear failing in front of their peers (Stanfa & O'Shea, 1998). They may either withdraw or misbehave to disguise their inability to read. Improvisational drama may be the key to help some students take the risk and read.

What Is Improvisational Drama?

Improvisational drama, as defined by the Children's Theatre Association of America in 1975, enables participants to imagine, act out, and reflect upon human experiences (Dupont, 1992). This strategy combines high involvement and movement, both of which are supported in the emerging research on how the brain learns and supports the learning style of students who need to be active. Improvisational drama differs from theatre drama in that it is process centered and theatre drama is audience centered. Improvisational forms include dramatic play, pantomime, puppet shows, and story dramatization (Stanfa & O'Shea, 1998).

Why Use Improvisational Drama?

Struggling readers may not feel confident about their reading skills and may welcome dramatic activities as a safe place to share perspectives and ideas (Stanfa & O'Shea, 1998). Improvisational drama also can aid students' generalization, help them apply knowledge, and transfer information learned in one setting to other situations and settings (Stanfa & O'Shea). Through drama, students may be required to use language in several ways: (a) explain or instruct; (b) argue, defend, or persuade; or (c) plan or project. The language becomes part of the situation and encourages group interaction. Key to the success of improvisational drama is structured reflection to deepen readers' thinking, challenge assumptions, and provide opportunities for self-assessment of learning.

In a meta-analysis of dramatic activities studies, Wagner (1988) concluded that drama can improve reading comprehension through language growth, improving self-confidence and self-concept, and aiding behavior and cooperation. Bidwell (1990) noted that drama (a) activates prior knowledge and requires the readers to involve themselves in the reading, (b) encourages readers to use metacognitive strategies to locate information and analyze situations, and (c) provides immediate teacher feedback in order for readers to check their understanding. At least two levels of comprehension instruction are included in improvisational drama: (a) cooperative learning, and (b) question generation.

How Can Teachers Use Improvisational Drama?

Advance Preparation. Teachers should select reading objectives for a topic and plan the improvisational drama using appropriate reading selections (Stanfa & O'Shea, 1998). The drama may explore issues, themes, events, characters, or settings. You should plan the dramatic

context with the following features: (a) opportunities for effective engagement of the readers in the story, materials, or lesson; (b) open-ended context to provide room for reader contributions; and (c) a level of tension or uncertainty (O'Neill, Lambert, Linnell, & Warr-Wood, 1976). You can plan your role as to how you will guide and support the readers through questioning, challenging, organizing, and focusing on pertinent text details (Stanfa & O'Shea). Props can be used, but are not essential. If you would like for your students to use props or to decide if they would like to use props, make sure that a selection of props is available. You might ask students ahead of time if they would like to bring some appropriate props from home.

Before Reading. You should talk with students to give them an advance organizer to help them understand the purpose of the reading lesson, how the lesson will proceed, and what is expected of them during and after the lesson. If students are not familiar with improvisational drama, you will need to introduce them to the concept and be sure to set parameters for the lesson. For example, you may tell students that, "We will begin reading the story together, but instead of stopping and discussing the story events, we will stop and act out the story." You must make sure that each student has a part so that everyone will participate.

Determine whether students will volunteer for character roles or whether the teacher will assign the roles. If you would like for students to "get into a character" to later act out how that character thinks, feels, and behaves, then make character role selections or assignments known prior to reading. If students are to assume a character role during reading, they may feel more comfortable having an opportunity to preread their parts one-on-one with the teacher or a peer buddy prior to whole class reading. To help students prepare to be a particular character you may want to have them complete a character map using the printable form for Grades 3–8 found at www.teachervision.com/tv/printables/087628411X_218.pdf

During Reading. The entire class may read the story orally together or students who are able to read the story independently may wish to do so silently, while the teacher works individually or in a small group with students who prefer having teacher assistance. You may wish to point out critical features or events as the story is being read in order to help the students later prepare their dramatizations. You can encourage students to ask questions to aid their understanding. If they become lost in one section of the story, then the remainder may not make sense to them. The improvisational dramatization may occur at various teacher-selected points during the story reading or it may be postponed until the class has read the story. You should keep in mind that some students with learning difficulties may not be able to remember the entire story and would do better working with small portions of it and then putting the big picture together.

After Reading. For improvisational drama, the during-reading and after-reading activities may be the same or different. If you are stopping the story at various points and asking students to provide the dramatization for each of those points, then the dramatization in itself, student responses to teacher queries, and student reflections may provide evidence that students have comprehended the intended material. For some stories, the teacher may deem that after-reading dramatization is more appropriate. Either way, note that story drama does not have to consist of literal interpretations only. Instead, the dramatization may be used to explore interesting issues, create new story events or endings, or help students read between the lines to tease out implicit information. This particularly may be helpful for students with learning difficulties who may have difficulty with inferential information.

Follow-up Activities. Follow-up activities might include additional dramatizations to provide variations on a theme. For example, if the story contained historical characters, the students may want to create a modern day version. Or the students may want to change the setting for the story (e.g., from a rural area to the city or from Mexico to the United States). Another version may be to add new characters such as famous people or to substitute school or community leaders for original story characters. Writing prior to dramatization may aid student organization of ideas (Stanfa & O'Shea, 1998), especially for students with learning difficulties. You may ask older students (Grade 3 or 4 and up) to write a script for the new version and younger students (Grades K through 2 or 3) to dictate a script to the teacher or into an audiotape recorder. Older students may work in small groups to create additional dramatizations. Writing can be an appropriate follow-up activity to dramatization to ensure students' understanding and also may serve as an assessment piece (Stanfa & O'Shea). Drawing may be an appropriate means for younger students to show their understanding of the dramatization.

COOPERATIVE DISCUSSION AND QUESTIONING (COOP-DIS-Q)

Struggling readers can benefit by working with others to make meaning of a story or novel. Working with others in a risk-free environment emphasizes the importance of sharing and that two or more heads can be better than one. Students may feel more comfortable sharing with peers in small groups as opposed to the entire class.

What Is Coop-Dis-Q?

Coop-Dis-Q was developed by incorporating the elements of cooperative learning, discussion, and questioning into one strategy (Gauthier,

2001). The premise is that the combined strengths of each element will create a synergistic instructional effect. The strategy was field-tested in a fifth-grade classroom after a novel had been read to the whole class and resulted in the students taking active roles to aid their comprehension and to assume responsibility for decision making. The students participating in the field-testing generated robust discussion and minigroups were eager to share their information with each other.

Why Use Coop-Dis-Q?

A combination of cooperative learning, group discussions, and questioning tactics results in enhancing each tactic. According to Johnson, Johnson, and Holubec (1994), cooperative learning helps students maximize their learning through the use of small instructional groups. Brown, Collins, and Duguid (1989) noted that cooperative learning can help students recognize that many roles often are needed to solve authentic problems and also help them identify ineffective problem-solving strategies.

Gambrell (1996) stated that group discussions strengthen students' recall and understanding of text material read. Alvermann, Dillon, and O'Brien (1987) cautioned that the teacher must provide explicit instruction, modeling, and numerous practice opportunities for effective discussion to occur. If the teacher demonstrates respect for students' ideas and perspectives, then the students will be more likely to participate in classroom discussions. Discussion activities can enhance interpersonal communication skills and social interactions, which are precursors to cognitive growth (Rogoff, 1990; Vygotsky, 1978).

Questioning is an instructional facilitator that can aid reading comprehension (Strother, 1989). Questions help students make meaning from text because they are guided with choices to accept or reject. Evaluative questioning can assist the teacher in determining the amount and type of comprehension acquired by the student. Rosenblatt (1982) suggested that questions that are a representative mixture of instructional, evaluative (i.e., informative, expository), and aesthetic (i.e., feelings) are the most effective way to develop students' multidimensional comprehension.

Although Coop-Dis-Q is new and only field-tested, the separate elements of cooperative learning, discussion, and questioning have literature support. The levels of comprehension instruction included in Coop-Dis-Q are (a) cooperative learning, (b) question answering, (c) question generation, and (d) summarization.

How Can Teachers Use Coop-Dis-Q?

Advance Preparation. The teacher should decide if the groups of six students should be heterogeneous or homogeneous in order to accomplish

the lesson objectives (Gauthier, 2001). Students with learning difficulties likely can benefit from being in a heterogeneous group where they can see a variety of good thinking styles being modeled by their peers. Then you should determine the composition of each group. You might wish to field-test the strategy with one group to help you become familiar with it. To prepare a set of questions, determine elements that are important for students to glean from the reading. You will need to make sure that the questions address literal, inferential, and critical comprehension as well as integrate instructional, evaluative, and aesthetic aspects. For example, a fifth-grade teacher used some of the following questions after reading the book *Summer of the Monkeys* (Rawls, 1976) to her students (Gauthier, 2001). Notice that the types of questions are indicated in parentheses.

- Did the first part of the book interest you enough to make you want to keep listening? Why? (instructional, evaluative, aesthetic)
- What were the names of the two main characters who were children? (literal, evaluative)
- What was the financial or money situation in the Lee family? At what point in the book did you first think this? (inferential, evaluative)
- What was the first point in the story when you didn't understand something? Why did you think you didn't understand it? Did you ask the teacher to reread or explain? (literal/critical, instructional/evaluative, efferent/aesthetic; Gauthier, 2001, p. 219)

You will need to make sure that the questions are contained on a single sheet of paper and that each student will be able to have a copy of the questions. Also, you can cut one question sheet into strips containing one question per strip.

Before Reading. The teacher in Gauthier's (2001) study chose to read a book aloud to the class prior to implementing the Coop-Dis-Q reading comprehension strategy. If you plan to proceed in the same manner, then a brief preview of the book with the class would suffice in order to help the students activate their background knowledge. You might ask your students questions about the title, book cover, and any beginning illustrations to help them make predictions about the book's story events. Students with learning difficulties may need extra teacher cues to help them tap into their background knowledge and use available information (e.g., story pictures, graphic organizers, title, topic headings) to make predictions. Let them know it is okay to take a risk making predictions, even if we later learn that the predictions are incorrect.

During Reading. You will need to instruct your students to listen carefully as you read the book aloud to the class. Students should show

you that they are listening by having their eyes on you and by leaning slightly forward in their seats.

After Reading. After the story reading is completed, you should initiate a general discussion with your students on the text that was read (Gauthier, 2001). As soon as possible, you can gradually turn responsibility for the discussion to the students. When the discussion is completed, you will present the students with the sheet of questions you have prepared. The questions should be contained on one sheet of paper with a copy available for each student. A duplicate set of questions will appear on cut strips of paper with one question per strip. Next, you will divide the students into groups of three in order to give all students opportunity for discussion. The questions are to be divided equally among the triads.

You should ask each triad of students to work on its designated questions (Gauthier, 2001). Provide each group with a copy of the text and give it as much space as possible away from the other groups in order to minimize distractions. Then you will ask the groups to select a recorder to write the group's responses to the questions. Encourage the groups to respect the comments of all group members and to add additional questions if necessary to address important points. Next, you will ask two triads who had different questions to answer to become a new discussion group of six students (Gauthier). Ask the two original triad groups to present their answers to their new group of six. You should ask each original triad group if it generated any new questions to be added to the list. As teacher, you will moderate the discussion, model appropriate discussion practices, and make sure the discussion includes any new questions that either group added to the list. Coop-Dis-Q is considered complete when all questions have been answered and all topics of discussion have been addressed adequately.

Follow-up Activities. Coop-Dis-Q is an intensive reading comprehension activity and may not require any follow-up. If you think that students continue to struggle with the main ideas and essential details of the story read, then you may want to plan an individual or group follow-up activity such as creating a picture book to accompany the text or completing a graphic organizer to summarize key events and ideas. You may add another comprehension strategy such as improvisational drama to give students more comprehension practice.

COLLABORATIVE STRATEGIC READING (CSR)

Some students with learning difficulties may struggle with reading comprehension because it requires their attention to several things at

one time. Teaching students a single strategy may help them to tackle only one aspect of comprehension. Instead, teaching them a process that involves several related strategies may give students that extra boost toward becoming good comprehenders.

What Is CSR?

Collaborative strategic reading helps students to improve their reading comprehension, increase their vocabulary, and work cooperatively with peers. CSR is an instructional approach for multilevel classrooms that has been used successfully by teachers who teach heterogeneous intermediate-grade classes (Klinger & Vaughn, 1998). As part of the CSR Plan for Strategic Reading, students learn four strategies that take them through the before-, during-, and after-reading stages. Preview is the before-reading strategy, click and clunk and get the gist are the during-reading strategies, while wrap-up is the after-reading strategy. The before- and after-reading strategies in CSR are used only once, but the during-reading strategies can be used many times.

Why Use CSR?

The four CSR strategies are based on the previous research of Palincsar and Brown (1984) and Pressley, Brown, El-Dinary, and Afflerbach (1995), for example (Vaughn, Klinger, & Bryant, 2001). The click and clunk strategy of CSR can help struggling readers to monitor their understanding when they read. It helps them to notice when they understand and when they fail to understand (Klinger & Vaughn, 1998). CSR can be used with expository and narrative text and is compatible with a variety of reading programs (e.g., literature-based instruction, basal reading programs, and balanced reading approaches). Teachers who have used CSR indicate that it aids not only reading comprehension, but also study skills (Vaughn & Klinger, 1999). Klinger and Vaughn (1998) noted that students participating in CSR improved their scores on reading achievement tests. The levels of comprehension instruction included in CSR are (a) comprehension monitoring, (b) cooperative learning, (c) graphic and semantic organizers, (d) questioning answering, (e) question generation, and (f) story structure (implied).

How Can Teachers Use CSR?

Advance Preparation. Students need to be taught the CSR strategies and be given opportunities for strategy practice prior to being expected to perform the strategies. Initially, the teacher will model, role play, and use think-alouds to teach the four CSR strategies: preview, click and clunk, get the gist, and wrap-up. Then you will need to provide teacher-facilitated activities to help the students practice each of the strategies

(Klinger & Vaughn, 1998). If you prefer to have teacher-selected groups of heterogeneous students, then you should determine student grouping arrangements prior to beginning the strategy.

Before Reading. Preview is used once prior to reading the text for the entire lesson. In preview, students will have two to three minutes to learn as much as they can about the passage they will read. They will activate their background knowledge about the passage topic and will make predictions about what they will learn. In addition, previewing helps to activate student interest and engagement in reading. You might use movie previews as an analogy to help students understand the concept of previewing. Klinger and Vaughn (1998, p. 33) suggested the following questions to help students determine what they learn from movie previews:

- Do you learn who is going to be in the movie?
- Do you learn during what historical period the movie will take place?
- Do you learn whether you might like the movie?
- Do you have questions about what more you would like to know about the movie?

Students should look at headings, boldface type, pictures, tables, and graphs to help them determine what they know about the topic and what they will learn. You will need to remind students that, just like movie previews, they will have only a short period of time (i.e., two to three minutes) to discuss their background knowledge and predictions. A fifth-grade teacher in an inclusion class used a 5-minute structured preview strategy. She gave her students 1.5 minutes to write their background knowledge in their CSR learning logs, 1 minute to share their responses with other students, 1.5 minutes to write their predictions of what they may learn, and 1 minute to share their ideas with peers (Klinger & Vaughn, 1998).

During Reading. You must teach students the click and clunk strategy to help them monitor their reading comprehension and identify when they have difficulty understanding. Students click (comprehension clicks into place) and clunk (comprehension breaks down) while they read each passage section. Click indicates that the reader is progressing smoothly through the text, while clunk indicates a problem such as an unknown word meaning. Be sure to ask students if they have clunks regarding the passage section just read. In turn, students will expect the teacher to ask this question as they read various passage sections. By having a procedure where students are encouraged to let the teacher know when they encounter problems, students with learning difficulties feel more comfortable admitting that they are struggling. When

students encounter a clunk, they can select a fix-up strategy. Each fix-up strategy may be printed on clunk cards (flash cards) to serve as a visual reminder (Klinger & Vaughn, 1998, p. 34):

- Reread the sentence without the word. Think about what information is provided that would help you understand the meaning of the word.
- Reread the sentence with the clunk and the sentences before or after the clunk looking for clues.
- Look for a prefix or suffix in the word.
- Break the word apart and look for smaller words you know.

The second during-reading strategy is get the gist, which helps students to state in their own words the most important information from the passage read. This aids student understanding and memory of information learned. You can prompt students to identify the most important person, place, or thing in the passage read and to restate it in their own words. Remind students to state the gist in as few words as possible to convey the essential meaning. Klinger and Vaughn (1998) described one teacher who asked her students to write the most important person, place, or thing from the passage. Then she asked individual students to share their responses. The remainder of the class commented as to which responses they liked and why. Finally, the teacher asked students individually or in pairs to write the passage's gist and to solicit their peers' comments as to the gist's effectiveness.

After Reading. Wrap-up is used after reading the entire lesson text and helps students to generate questions and answers about the learned material (Klinger & Vaughn, 1998). The intent is to help students know, understand, and remember what they read. The five W's (i.e., who, what, when, where, and why) and an H (i.e., how) are question starters that students may use to formulate their questions. A graphic organizer suitable for PreK–12 is found at www.teachervision.com/lesson-plans/lesson-2276.html and may help students with learning difficulties to record this essential information. You can ask students to place themselves in the role of a teacher who is making test questions to find out if students understood what they read. Then you can give other students the opportunity to answer the questions. If no one can answer a question, it might mean that the question needs more clarification. You should teach students to ask different kinds of questions: (a) questions in which the answer is stated explicitly in the information read, and (b) questions in which the answer is in the student's head rather than in the passage read. Make sure that students ask some questions that involve higher-level thinking skills as opposed to only information recall. One teacher shared with her students that asking "Why do you think that?" can help every question become an even better question (Klinger &

Vaughn, p. 35). Some of the following question stems may help students to generate higher-level questions:

- How were _____ and _____ the same? Different?
- What do you think would happen if _____?
- What do you think caused _____ to happen?
- What other solutions can you think of for the problem of _____?
- What might have prevented the problem of _____ from happening?
- What are the strengths (or weaknesses) of _____? (Klinger & Vaughn, 1998, p. 35)

Students review by recording the most important ideas from the day's reading lesson in their CSR learning logs. These logs enable students to keep track of important information as they learn it and provide a launch pad for follow-up activities. Students can record information in their learning logs while applying every strategy or only for some of the strategies (e.g., recording clunks and key ideas).

When students become proficient at applying the comprehension strategies through teacher-directed instruction, they will need to learn cooperative group roles to perform during CSR. Students should have an opportunity to perform different roles; therefore, they should rotate roles regularly. Each role should come with a cue sheet to help students know the responsibilities for their role and to help them stay focused. A cue sheet particularly is important for students with learning difficulties who either may not remember or may not understand their roles. Teachers can take the opportunity to go over the cue sheets the first few times the strategy is used in order to make sure that everyone understands his or her role. Some of the roles may include the following (Klinger & Vaughn, 1998, p. 35):

- *Leader.* Tells students what to read and what strategy to apply. Asks for teacher assistance when needed.
- *Clunk Expert.* Uses clunk cards to remind students of the steps in the clunking strategy when they are struggling with a difficult word or concept.
- *Announcer.* Asks group members to read or share an idea and makes sure that everyone in the group has an opportunity to participate.
- *Encourager.* Gives feedback by praising positive behaviors and encouraging all to participate in discussions and help each other. Also evaluates the group collaboration and makes suggestions for improvement.
- *Reporter.* Reports to the class the main ideas learned from the group and a favorite question generated.
- *Timekeeper.* Sets the timer and informs the class when a new portion of CSR should begin.

You will need to monitor students as they begin working in their cooperative roles by clarifying difficult words, modeling strategies and positive attitudes, and encouraging all students to participate.

Follow-up Activities. These activities can reinforce important vocabulary words and ideas students have encountered in the reading assignment. Reviewing important vocabulary words and ideas can help students with learning difficulties to summarize and remember key information. Each group might be assigned or asked to choose different follow-up activities in which they will share their final products with the entire class. Klinger and Vaughn (1998) suggested that a different group might prepare each of the following: (a) semantic map, (b) mnemonic devices, (c) clunk concentration, (d) Venn diagram, and (e) theme pictures.

BIBLIOTHERAPY

One reason that students with learning difficulties may have difficulty understanding and remembering what they read is that they cannot identify with the characters or events in the story. Sridhar and Vaughn (2000) advocate the use of bibliotherapy for all students to enhance not only their reading comprehension, but also their self-concept and behavior.

What Is Bibliotherapy?

Originally, bibliotherapy was intended to help students deal with problems or stressful situations (e.g., visiting the doctor, dealing with the death of a loved one or pet, or attending a new school). Students were given books to read that had a therapeutic intent (Cornett & Cornett, 1980). In order to achieve the therapeutic effect, the reader must (a) *identify* with the story's main character and events, (b) *experience catharsis,* which involves becoming emotionally involved with the main character and situation, and (c) *develop insight* by analyzing the main character and his or her way of dealing with the situation (Afolayan, 1992). Based on these activities the students could become involved intimately with the story content.

Why Use Bibliotherapy?

Low-achieving students as well as students with learning disabilities often have reading comprehension problems and difficulty with social relationships (Hager & Vaughn, 1995). Peer rejection, poor social skills, and low self-esteem are some of the social consequences of low

academic achievement (Sridhar & Vaughn, 2000). Research has shown that bibliotherapy positively impacts reading readiness, achievement, and self-concept (Afolayan, 1992; Bauer & Balius, 1995; Borders & Paisley, 1992; Myracle, 1995). This strategy is flexible enough to be used in a general education setting or a resource room with a single student or a group of students. Several levels of comprehension instruction are included in bibliotherapy: (a) comprehension monitoring, (b) question answering, (c) cooperative learning, and (d) summarization.

How Can Teachers Use Bibliotherapy?

Advance Preparation. Teachers should select an appropriate book for the student(s) by matching the book to the problem. For example, the book *Shelley, the Hyperactive Turtle* (Moss, 1989) would be appropriate for students who have difficulty remaining in their seat, listening to directions, and making friends (Sridhar & Vaughn, 2000). Make sure that the book also is selected for its developmental and reading-level appropriateness (Pardeck, 1995).

Before Reading. A prereading strategy is intended to help the students focus on the story topic and access background knowledge related to the story. The teacher should share with the student(s) the book's general theme and some of the things that the main character does. For example, Shelley does not remain in his seat during class. Further, he talks often without first raising his hand. You should ask the students questions to help them talk about how someone like the main character might feel in those situations. Also, guide the student(s) to make predictions about the story's content based on their prior knowledge (Sridhar & Vaughn, 2000).

During Reading. You may not want to wait until after reading the entire story to begin asking the students questions about its content. By asking questions, you can help the students, especially those with learning difficulties, to summarize key information in the story and to eliminate trivial details. Sridhar and Vaughn (2000, p. 76) suggested the following questions to ask about Shelley:

- Why do you think Shelley got out of his seat?
- How do you think Shelley felt?
- Does that mean he is bad?
- What do you think Shelley can do now?
- What has happened so far?
- What did Shelley do before he got out of his seat?

Also, it is important to ask questions to help students identify with the main character (Sridhar & Vaughn, 2000, p. 76):

- Has that ever happened to you?
- What would you do if you were Shelley?

After Reading. In order to help the students synthesize key information from the story and apply it to their own life situations, you may initiate a discussion. If the entire class has read the story, then you might divide the class into small groups of three or four students. Each group works collaboratively to suggest ideas that could be helpful to Shelley (Sridhar & Vaughn, 2000). Then each group can retell the story to the entire class and share its ideas about Shelley's feelings and how Shelley and others could improve the situation. The story retelling or verbal reconstruction of the reading helps students focus on the big picture of the story and provides a comprehension framework. Encourage students to interact with each other during the retellings and idea sharing by elaborating on another student's summary, providing an opinion about someone's interpretations, or asking questions. The teacher's role is to scaffold or provide support for students by restating or elaborating on their verbal contributions (Rosenshine & Meister, 1994).

Follow-up Activities. Ouzts (1991) noted that follow-up activities should focus on the fundamental process of identification, catharsis, and insight. You might want to provide follow-up activities geared to the students' age and interest levels. Students of all ages may enjoy recreating the story through original art or computer clip art. Likewise, students of all ages may welcome the chance to recreate the story through drama. Perhaps the students would like to provide a new ending or a sequel to the story based on their discussions and conclusions after reading the story. They may use art, computer clip art, or drama to do so, or may choose to use a desktop publishing computer program to develop their own books. Activities such as these give students a choice and allow students with learning difficulties to capitalize on their strengths.

REFLECTIVE EXERCISE 5.2
LOOKING FOR APPROPRIATE STORIES?

If you are looking for stories that might be used for bibliotherapy activities in your classroom, go to www.ldonline.org/ld_store/bibliotherapy/ldbooks.html, which provides suggestions for using bibliotherapy and a list of fiction books for students of various ages.

CONCLUSION

Too many students read the words on the printed pages without understanding or remembering what they read. It will be very difficult for them to become lifelong learners if they can't obtain meaning from what they read. The NRP identified seven categories of text comprehension instruction that are supported by research (NICHD, 2000): (a) comprehension monitoring, (b) cooperative learning, (c) use of graphic and semantic organizers, (d) question answering, (e) question generation, (f) story structure, and (g) summarization. The NRP suggested that reading comprehension strategies should be taught in combination as multiple strategies. This chapter has focused on several of the multiple strategies that teachers can select to help improve their students' reading comprehension as well as several strategies that teachers can use together. Through the use of multiple strategies, all students, including those with learning difficulties, can obtain the most benefit for the time invested and have a variety of strategies to use in other classes, later in school, and in the real world for the rest of their lives.

WHAT'S NEXT?

In Chapter 6, you will find strategies for teachers to use in content area instruction in the elementary and middle grades, with a focus on reading and studying school textbook chapters, content area vocabulary development, and comprehension strategies. Some of the comprehension strategies in Chapter 5 also may be helpful in teaching content area literacy.

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6

Reading Comprehension in the Content Areas

Strategies Presented in This Chapter Include

- ✔ KWPLS: Know, Want to Know, Predict, Learned, Summarize
- ✔ Analogies Instruction
- ✔ The Possible Sentences Strategy
- ✔ A Vocabulary Self-Collection Strategy
- ✔ GRITS: A Guided Reading in Textual Settings
- ✔ ReQuest: Asking Self-Declared Questions
- ✔ Idea Circles
- ✔ Intra-Act: Sharing Perspectives
- ✔ Question–Answer Relationships

CONTENT AREA READING AND THE BRAIN

While most reading instruction in Grades K–3 is done as part of basal reading instruction and emphasizes reading skills specifically, reading in subsequent years involves reading of content area texts as well as continued instruction in basal readers. Because content area reading tends to emphasize the content rather than specific reading skills, the brain

regions involved in the reading process may function a bit differently. By the time most students are exposed to content area reading, they have mastered many of the initial reading skills discussed in Chapters 1, 2, 3, and 4 of this book (e.g., phoneme manipulation, phonics, and simple vocabulary). In short, they have reached a high level of automaticity in decoding words, such that actual mental efforts in phoneme recognition are somewhat reduced, whereas more effort is involved in extracting meaning from the text. The research on brain involvement in reading has shown this picture quite clearly in the form of brain scans. For advanced readers—typically the readers involved in content area reading—the areas of the brain that tend to be most active are not Wernicke's area (which, as you recall, deals with auditory discrimination) or the visual cortex (which has primary responsibility for "seeing" the letters on the page), but Broca's area, which is where meaning is attached to words. Consequently, reading in content areas is, to some degree, slightly different from earlier reading in terms of brain function.

The picture described above holds true for the average to good readers who have acquired the phonemic awareness, phonics, vocabulary, and comprehension skills that they need to apply to content area reading. Students with learning difficulties still may be struggling with some or all of these skills, which can make content reading laborious. Thus, if efforts are spent on decoding and pronouncing words as well as determining the meaning of numerous vocabulary words, students with learning difficulties do not comprehend or obtain the necessary meaning from what they read. In addition, students in content classes are expected to learn, remember, and apply a wealth of facts and concepts in each content class. In earlier chapters we have mentioned how students with learning difficulties have difficulty remembering information because they have not been able to process it in a way that it can be remembered. Because of limited background knowledge, these students may not be able to relate the new information to what they have already learned. In addition, students with learning difficulties may not have good organization and study habits that will enable them to work with content information effectively.

Some of the comprehension strategies and tactics discussed in Chapter 5 can be applied to content area reading. For students with learning difficulties, it is important to give them practice in using newly learned strategies in a variety of classes, so they can see that the strategies are valuable learning tools to be used often. This chapter will present additional strategies for teachers to use in content area instruction in the elementary and middle grades with a focus on reading and studying chapters in school textbooks, content vocabulary development, and comprehension strategies.

Reading expository text in content area classes may pose problems for students with reading difficulties or students who have not learned appropriate strategies to help them read and remember important information.

To compound the difficulty of students' comprehending expository text, some content area teachers in Grades 4 through 12 fail to provide instruction in the comprehension process (DiCecco & Gleason, 2002). If students, particularly those with reading problems, are expected to read chapters and answer comprehension questions, then they need to be provided some instruction on how to examine text structure and explain important information (Beck, McKeown, Hamilton, & Kucan, 1998; Durkin, 1978–79; Gillespie & Rasinski, 1989). For example, the following words can help students identify text structures:

Sequence			*Compare and Contrast*		
first	second	before	while	yet	but
after	initially	finally	either	like	unlike
next	earlier	later	although	similarly	opposites
when	now	then	less than	more than	most
Cause and Effect			*Problem/Solution*		
because	since	thus	propose	conclude	a solution
if . . . then	therefore	as a result	the problem	the question	evidence is
Consequently	nevertheless	then . . . so	reason for	research shows	
on account of	for this reason	due to			

SOURCE: Adapted from Alvermann and Phelps (1998, p. 210) and Fountas and Pinnell (2001, p. 402).

Even young children can be taught to start looking for some of these cue words when they are reading. For example, words such as first, second, and third indicate that several things are being mentioned in a particular order or sequence. Young students learn that words such as earlier, later, and now give an indication of time. They also can be taught to compare two people, places, things, or ideas. For example, second- or third-grade students may find the similarities and differences of Alaska and Hawaii during a social studies activity. Young students begin to learn about cause and effect when they find the answers to questions such as the following: Why did that happen? What caused that to happen? What did the people think or what did they do when that happened? Some of the questioning and story map strategies in Chapter 5 can help young students with learning difficulties identify problems and solutions. Perhaps using the story maps or the drama strategies discussed in Chapter 5 will help to make abstract concepts such as sequencing, comparison, cause and effect, and problem solution more concrete for students with learning difficulties.

Graphic organizers (GOs) can help students learn to explore text structures and determine the relationships among concepts to elicit meaning from text information that they read. While the concept of GOs was described initially in Chapter 4 as an effective way to teach vocabulary, we

explore the idea here as a mechanism for content area reading instruction. These visual depictions or illustrations label the relationships among key concepts to make them more explicit (see Hudson, Lignugaris-Kraft, & Miller, 1993; Moore & Readance, 1984; Novak & Gowin, 1984). Graphic organizers often use spatial arrangements, geometric shapes, lines, and arrows to display text structure and identify relationships (Darch, Carnine, & Kameenui, 1986). In a study of middle school students with learning disabilities, DiCecco and Gleason (2002) found that GOs aided students with learning disabilities in recalling relational knowledge, particularly when they were asked to write essays to assess their knowledge of the content material.

In a meta-analysis of graphic organizer research, Moore and Readance (1984) found that teachers who used GOs indicated that they felt more competent in teaching the content material to students. More specifically, they perceived being more organized, more in control of learning activities, and more aware of learning task demands. DiCecco and Gleason (2002) cautioned that effectively incorporating graphic organizers into instruction is more than showing students a graphic organizer on an overhead projector. It includes teacher modeling, guided practice, and review. Ellis (2000) suggested a means of scaffolding instruction using graphic organizers (see Teaching Tip 6.1). Larkin (2001) also provided some general scaffolding tips that are applicable to scaffolding graphic organizer instruction as well (see Teaching Tip 6.2).

Griffin and Tulbert (1995) reviewed literature on graphic organizer research to glean recommendations for classroom practice, which include:

- GOs are more effective when used with expository texts as opposed to lecture activities.
- GO instruction is more effective if vocabulary is the criterion measure used (Moore & Readance, 1980, 1984).
- GOs are more effective when constructed using the following steps (Horton & Lovitt, 1989):
  - Divide chapters into approximately 1,500 word passages
  - Construct an outline of main ideas in the reading passage
  - Select a GO format to fit the structure of the information
  - Both teacher and students prepare versions of the GO

KWPLS (KNOW, WANT TO KNOW, PREDICT, LEARNED, SUMMARIZE)

Originally, KWL was designed to help students think about what they already knew about a topic (i.e., activate background knowledge), determine what they want to know about the topic, and then (after

Teaching Tip 6.1

Scaffolding Graphic Organizer Instruction

Ellis (2000) noted that the scaffolding or support provided by a teacher or peers can be represented as a four-stage process in which more support is provided at first through the modeling of teacher-constructed GOs. Then teacher mediation is provided when the graphic organizers are co-constructed by the teacher and students, peer mediation is used when students develop or complete graphic organizers in cooperative learning procedures with peers, and finally self-mediation occurs when students independently construct or complete graphic organizers. This continuum of scaffolding or support may be represented as:

I do it	*We do it*	*Students do it*	*You do it*
Teacher develops GO and presents it to students	Teacher and class co-construct GO	Students work in pairs or small groups to construct GO with minimal, if any, teacher assistance	Individual student constructs GO without assistance

SOURCE: Adapted from Ellis (2000, p. 7).

reading the passage) review what they have learned about the topic (Ogle, 1986, 1989). KWL works well for students of many ages to help them make connections among previously learned information and new information to be learned as well as ask questions about their learning. A printable version of a KWL chart suitable for Grades PreK to 12 is available at www.teachervision.com/tv/printables/KWL_Chart.pdf. For example, younger students in science class may be studying plants. Prior to beginning a unit or the lessons on plants, the students and teacher together could fill out a KWL chart on plants.

KWPLS is a variation by Larkin (2001) on the KWL strategy and graphic organizer that not only helps students to accomplish the K step, the W step, and the L step, but also encourages students to make predictions before reading and during reading (i.e., P step—predict) and to summarize main ideas after reading (i.e., S step—summarize). Each student is given a copy of the blank KWPLS graphic organizer and will need to be instructed in how to use the KWPLS strategy and GO sheet.

Teaching Tip 6.2

General Guidelines for Effective Scaffolding

Larkin (2001) provided general guidelines suggested by teachers for effective scaffolding. These guidelines are applicable to graphic organizer instruction.

- *Identify students' background knowledge.* To help students learn new information, incorporate some information that they already know. For example, if students were asked to complete a graphic organizer in which they were to compare and contrast information about United States presidents, asking them to compare attributes of more current presidents (i.e., Bill Clinton and George W. Bush) may help them to learn information about the presidents with whom they are less familiar (e.g., Franklin D. Roosevelt and Herbert Hoover).

- *Begin with what students can do.* When incorporating graphic organizers into instruction, plan some easier tasks first. Some students may be lost if they were asked to compare and contrast specific U.S. presidents, but if they first completed a fact sheet for each of the presidents (e.g., Bill Clinton, George W. Bush, Franklin D. Roosevelt, and Herbert Hoover), then they could later use that information to complete the compare and contrast graphic organizers.

- *Help students achieve success quickly.* This is tied closely to *begin with what students can do.* By providing lessons and activities where students can do the work, their self-esteem grows because they view themselves as being successful. Quick and continued success may be what some students need to break their cycle of academic failure.

- *Know when it's time to stop.* Students need drill and practice to aid their learning, but the sure way to turn students off to learning is to overdo the drill and practice. Thus, plan meaningful ways in which students can use graphic organizers (e.g., taking notes, preparing study guides, as a test alternative) rather than require the same old work with GOs day in and day out.

- *Help students to be independent when they have command of the activity.* Don't let your students remain teacher dependent when they have mastered using particular graphic organizers. Encourage and help them to use GOs on their own in other classes and in real life situations, since the teacher will not always be there for assistance. The key to effective scaffolding is helping students to move toward independence by providing support when needed and *gradually* lessening it and removing it as it is no longer needed.

KWL Chart on Plants

What we know	*What we want to find out*	*What we learned*
Plants are living things.	What do plants need to live?	Plants need water, sunlight, and nutrients to live.
Some animals eat plants.	What do you call those who eat plants?	Herbivores eat plants.
Many plants are green.	What causes plants to be green?	Chlorophyll is the substance that makes plants green.
Some plants grow tall.	What are some kinds of plants that grow tall?	Corn and sunflowers are plants that grow tall.

A reproducible blank copy of KWPLS may be found on the next page. See the previous teaching tips on scaffolding GO instruction and general guidelines for effective scaffolding to help you determine how to introduce a new GO to your students.

KWPLS is designed to help students pay attention to the things that good readers do in the before-, during-, and after-reading sequence. The KWPLS GO is designed to guide students through the before, during, and after sequence, but be sure to caution your students not to fill in the shaded boxes. For example, they cannot fill in the have-learned box prior to reading the chapter or passage. They also cannot complete the know box for background knowledge during or after reading to encourage them to examine background knowledge prior to reading. You might explain to your students that they will continue to use background knowledge during reading and after reading, but it will only be necessary to record it on the KWPLS sheet prior to reading. See the sample KWPLS sheet below.

On the sample KWPLS sheet students are learning about the three branches of U.S. national government. Before reading they are asked to look at the title, pictures, and headings of the passage or chapter that they will be reading and record information that they already know about the U.S. government branches (K) and what they want to know (W). Then they are to predict (P) what information they might learn from reading the selection. During reading they are asked to continue to formulate questions about what they want to know (W), continue to make predictions (P), and record new information that they learned (L). After reading, students are asked to continue to record information that they want to know (W), make predictions (P), and list additional

	K *Know*	W *Want to know*	P *Predict*	L *Learned*
	LOOK AT:	*Title →*	*Pictures →*	*Headings*
Before Reading				
During Reading				
After Reading				
Summarize main ideas in one sentence				

	K *Know*	W *Want to know*	P *Predict*	L *Learned*
	LOOK AT:	*Title →*	*Pictures →*	*Headings*
Before Reading	• The U.S. National Government has 3 branches. • The President is the head of the Executive Branch. • The President is elected to a four year term of office.	• What are the three branches of U.S. government? • What are some of the powers of each branch? • How are members of each branch selected?	• The three branches of U.S. government are the House of Representatives, the Senate, and the President. • Only the President can make laws. • The members of each branch are elected directly by the people.	
During Reading		• The Constitution gives the power to declare war to which branch? • How many members are in the U.S. House of Representatives? • How many justices are on the U.S. Supreme Court?	• The Constitution gives power to declare war to the Congress. • There are 100 members in the U.S. House of Representatives. • There are 50 justices on the U.S. Supreme Court.	• The three branches are the legislative, executive, and judicial. • The U.S. Congress has the primary responsibility to make laws. • Members of Congress are elected directly by the people.
After Reading		• How is the Chief Justice of the U.S. selected? • What is the length of term of office for a U.S. Representative? • What is the length of the term of office for a U.S. Senator?	• The Chief Justice of the U.S. is selected by the other justices. • Representatives are elected for four years. • Senators are elected for six years.	• The Constitution gives Congress the power to declare war. • There are 435 representatives. • There are nine justices on the Supreme Court.
Summarize main ideas in one sentence	The powers of the U.S. national government are divided among the legislative, executive, and judicial branches.			

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information that they learned (L). At any point in this process students may reexamine their predictions and place an X through those predictions that they learned are incorrect. Students may want to wait until after reading and recording all of the KWPL information to reexamine their predictions, or the teacher may have a follow-up activity where students work with a peer buddy to reexamine their predictions. Finally, students are asked to look over their almost completed KWPLS sheet to make one summary (S) statement that captures the essential information learned from the reading. Students with learning difficulties can benefit from using the KWPLS sheet to help them sort out essential information from the trivial and to feel comfortable in making predictions. These students likely will need guidance to follow the steps in using the sheet. Teacher cues and covering (with a blank piece of paper) the row(s) of the sheet not being used at any particular time will aid these students.

ANALOGIES INSTRUCTION

In content area reading, students with learning difficulties often encounter abstract ideas that may be difficult to comprehend because they do not or cannot relate the ideas to their own background knowledge and experiences (McKenna & Robinson, 2002). Glynn (1996) and others have noted that the use of analogies can help to make abstract content interesting and understandable. By connecting new with known information, students can deepen their understanding of content material read (Kuse & Kuse, 1986). Glynn offered the following suggestions for teaching with analogies (TWA):

1. *Introduce the new concept.* Graphic organizers may be used to help identify the characteristics and background information about the new concept.
2. *Review a familiar concept to be presented through an analogy.*
3. *Identify the features of both new and familiar concepts.*
4. *Explain the similarities of the two concepts.*
5. *Explain the differences where the analogy breaks down or no longer applies.*
6. *Draw conclusions.* In other words, what are the big ideas that students need to remember about the new concept?

Suggesting several analogies and asking students to critique them at the end of a unit can modify the TWA activity (McKenna & Robinson, 2002). Students must decide which analogies work and which don't. After students have had experience working with analogies, then they may be ready to suggest their own analogies.

A Venn diagram may assist younger students in making comparisons through analogies (printable version available at www.teachervision.com/tv/printables/VennDiagram.pdf). For example, young students in a social studies class may want to compare fighting in a war to being sick. When individuals are fighting in a war or are sick, they may be told what they have to do and may not get to eat the foods that they want to eat. Fighting in a war is different from being sick because children can get sick, but likely will not fight in a war.

Synectics is a form of analogous comparison by comparing something that is new or difficult with something that is familiar in order to stretch one's thinking. Larkin (2001) developed a synectics graphic organizer to help students stretch their thinking while learning about the Choctaw Indians during a social studies lesson (presented below). Students use the GO to compare concepts about the Choctaws (new ideas) with concepts that are familiar.

The partially completed GO gives students practice in completing various parts of the analogy. For statements 1 and 2 in the far left column of the GO, students are asked to supply a familiar concept with which to compare the statements. For statements 3 and 4, students are given a familiar object, but must explain a comparison that can be made with the statements. For statements 5, 6, and 7, students are asked to supply both a concept or object with which the statement can be compared and the comparison to be made. Until students with learning difficulties are familiar with using the synectics sheet, the teacher may want to supply a partially completed sheet in which students only list the concept or object for comparison, because the comparison is already made (e.g., like in statements 1 and 2). Then students may work on sheets in which they only make the comparison, because the familiar object or concept for comparison is given (e.g., like in statements 3 and 4). Finally, students may be ready for a combination of either the familiar concept or object being given or the comparison being given (e.g., like in statements 5, 6, and 7).

REFLECTIVE EXERCISE 6.1
GUIDING PRINCIPLES FOR TEACHING CONTENT

In the preceding section, we noted that GOs help students to explore text structures and determine the relationships among concepts to elicit meaning from text information. Therefore, helping students to explore text structures and determine relationships among concepts to elicit meaning could be considered a guiding principle for teaching content. Think about other principles that might guide you in teaching content lessons in order to make those lessons more meaningful to

Choctaw Loss of Homeland

Directions: Making comparisons between two objects or ideas will help you to express your feelings and ideas. Fill in the blanks to complete the analogies.

1. The Choctaw signing the Treaty of Hopewell with the U.S. government	is like		because	it establishes peace and friendship.
2. In the 1700s the Spanish establishing forts on the borders of Choctaw land	is like		because	they try to protect their interests.
3. The U.S. government and missionaries attempting to "civilize" the Choctaw by teaching them the values of the non-Indian society	is like	a razor	because	
4. The United States trying to acquire additional Choctaw land	is like	a candy bar	because	
5. Promises made to the Choctaw by the U.S. government	are like		because	
6. Shawnee chief Tecumseh's urging the Choctaw council to rise up against white intruders	is like		because	
7. The loss of the Choctaw homeland	is like		because	

students. If you are having difficulty thinking of those on the spot, ponder this topic as you are planning your lessons, driving home from school, or during a few minutes of quiet time. Also, think about guiding principles as you read the remainder of this chapter. You may want to add principles such as helping students to develop, tap into, and use their background knowledge; helping students to make predictions about what they read and check their predictions; and summarizing what they have learned. These reading tactics are supported by the research (National Institute of Child Health and Development [NICHD], 2000) and should be used in every classroom. Keep your list of principles accessible and review it periodically. You might want to discuss some of these principles with your colleagues and share some ideas.

POSSIBLE SENTENCES

The possible sentences activity is a pre- and postreading strategy that will help students with learning difficulties to learn content area vocabulary by (a) drawing upon their background knowledge of a topic, (b) making predictions about possible sentences that might appear in their reading, and (c) using partial knowledge about selected vocabulary words (Buehl, 2001; Stahl & Kapinus, 1991). In this activity, students are instructed to create possible sentences using both known and unknown vocabulary terms from the reading passage and then to examine the truth of those sentences using the reading passage.

The possible sentences activity was used with fifth-grade students in two studies and was found to improve students' vocabulary and factual information recall (Stahl & Kapinus, 1991). In one study, Stahl and Kapinus reported that a structured discussion of predicting how key vocabulary words will be used in a reading passage as opposed to only a general discussion of that passage seemed to improve recall of that passage.

Stahl and Kapinus (1991) noted the following steps in the possible sentences strategy:

1. The teacher selects approximately six to eight words (i.e., usually key concepts) that might pose difficulty for the students (e.g., barometer, humidity, meteorology).

2. Then the teacher chooses four to six additional words that are familiar to the students (e.g., rain, clouds, predict).

3. Next, the teacher puts the 10 to 12 words on the board or overhead transparency along with a short definition if necessary.

4. Students are asked to think of possible sentences containing at least two of the words in the forthcoming reading passage or chapter. This forces students to examine the relationships (e.g., synonyms, antonyms, superordinates, subordinates, and examples) among words.

5. The teacher then puts the student contributions on the board or transparency. All predictions are included and the accuracy or inaccuracy of the predictions is not discussed at this time.

6. When students have included all words in at least one sentence, they are instructed to read the passage or chapter.

7. After the reading, the class discusses whether the sentences could or could not be true based on what they have read. True sentences are left as is on the board, while students discuss ways to modify untrue sentences. The discussion aspect may help students with both high and low background knowledge of the topic. Thus, listening to others' contributions can help those students who are less willing to participate. In addition, comparing the sentence contexts created prior to reading to those after reading the passage or chapter requires students to pay attention to words in context. Finally, through generating sentences, reading the passage or chapter, and in the follow-up activities, students receive multiple exposures to their vocabulary words.

Note that this strategy can be used for students with learning difficulties at various grade levels by selecting vocabulary words that students may not know but will encounter in the materials they will be reading. Another option is to use the strategy to help young students improve their listening vocabulary. Thus, in step 6 the teacher may read the passage to the students or they may listen to the passage via audiotape, videotape, CD, or DVD.

VOCABULARY SELF-COLLECTION STRATEGY (VSS)

The vocabulary self-collection strategy (VSS) helps students acquire and remember content area language for specific subjects (Haggard, 1986; Vacca & Vacca, 2002). Through VSS, students decide the importance of particular concepts and use contextual clues to establish meaning. Students with learning difficulties especially can benefit from practice in using context clues. Once students have read and discussed a reading assignment, they can begin using VSS. The following summarizes the VSS steps:

1. *Teacher models.* The teacher nominates a word and models the VSS procedures (i.e., how to respond to the three questions in step 4) for students.

2. *Select teams.* Teams may be teacher selected or student selected and should consist of two to five students.

3. *Nominate a word.* Each team chooses a word from the text selection to emphasize. The word should be one that they believe is important enough to share with the class and that they would like to learn more about.

4. *Present the word.* A spokesperson from each team identifies its nominated word and responds to these questions:

   a. *Where is the word located in the text?* The spokesperson may either read the passage containing the word or describe the context of how the word is used.
   b. *What is the meaning of the word?* The team members determine the meaning of the word using context clues from the passage and additional references if needed.
   c. *Why is this word important to learn?* The team must justify why its nominated word is important enough to be emphasized.

The teachers' role is to write the nominated words and their meanings on the board or overhead transparency and facilitate class discussion by encouraging students to ask questions or provide additional clarification.

5. *Record nominated words.* Students record nominated words and their meanings in a learning log or vocabulary notebook. These vocabulary lists may be reviewed and studied on a regular basis. The students may see these words several times again when their teacher includes the words in practice or extension activities.

Like in the possible sentences strategy, VSS may be used to help younger students with learning difficulties to hone their listening skills and increase their content area vocabulary. The teacher may guide students in listening for new words while he or she reads a passage.

REFLECTIVE EXERCISE 6.2
SELECTING IMPORTANT VOCABULARY

You have just read about two strategies for helping students to learn content area vocabulary. In the VSS strategy students nominate vocabulary words that they believe are important. Beyond the words that the students nominate, how will you determine the other vocabulary words that they need to learn? Students with learning difficulties can be overwhelmed with too many vocabulary words. This "spray and pray" instructional

approach often means that the teacher exposes students to a large number of vocabulary terms and spends little time helping the students fully learn the terms and their meanings. Therefore, the teacher has to pray that the information will be retained.

Sometimes teachers feel pressured to cover content material rapidly in order to address curriculum standards or policies. Why not consider making a plan that not only helps students to meet curriculum standards, but more important, helps them to remember and use the vocabulary terms that they do learn? Don't forget that students with learning difficulties will need regular review to maintain and generalize the vocabulary words they have learned.

GUIDED READING IN TEXTUAL SETTINGS (GRITS)

McKenna (2002) indicated that students in upper elementary grades require extensive support when reading nonfiction. Some guided reading formats expect students to read large amounts of material without providing the necessary scaffolding for them to do so. Although background building, prereading activities, and postreading discussions provide support before and after silent reading, they do nothing to give students needed guidance during silent reading.

To address this problem (i.e., lack of support for students during silent reading), McKenna (2002) developed guided reading in textual settings (GRITS), which incorporates a number of research-validated strategies. These strategies include (a) charting—arranging information in rows and columns, (b) graphic organizers—arranging information in a flexible format such as a semantic map or Venn diagram to make abstract information more visible, (c) reading guides—providing questions and tasks for students to do while reading to help them stay on track, (d) think-alouds—modeling of one's thinking during reading and discussion, (e) walk-throughs—helping students to preview what they will be reading, and (f) analogies—comparing new and abstract ideas to those ideas that are familiar and concrete. Thus, GRITS employs many of the strategies and ideas that have already been discussed in this and other chapters.

McKenna (2002) found that GRITS provided the scaffolding that third-grade students needed to comprehend science-related nonfiction. Prior to GRITS instruction 24 of the students scored below instructional-level criteria as compared to 18 students who would not receive the four GRITS lessons. When the students were assessed at the end of the academic year, 22 of the 24 GRITS students met the criteria as opposed to 11 of the 18

non-GRITS students. McKenna concluded that students who participate in GRITS lessons tend to improve their grade-appropriate nonfiction reading skills, even in the absence of teacher support. When teachers teach students to use GRITS they can assume that (a) students have little prior knowledge of the topic they will be reading, (b) students are not skilled at strategically reading nonfiction, (c) students are not accustomed to monitoring their comprehension while reading, and (d) students can be easily distracted, frustrated, or bored while reading (McKenna). Use the following steps to implement GRITS in your classroom.

Advance Preparation. Read the nonfiction passage ahead of time to look for terms, ideas, and so on that could pose difficulty for students. Think of questions and comments that may aid students when they come to difficult points. Decide how much information should be read and discussed at one time. For new and difficult information, one paragraph may be sufficient. For other information, students may be able to read and comprehend two or three paragraphs at one time. Prepare a reading guide for each part (i.e., one paragraph alone or two to three paragraphs together) of the selection. Use charts and graphic organizers if appropriate (McKenna, 2002). If students have not yet been introduced to reading guides, you may want to include some lessons first to help students become familiar with reading guides. Essentially reading guides help students to look for particular information as they read. A reading guide may be in the form of a blank or partially completed graphic organizer that students finish as they read and locate the necessary information. Be sure to help students with learning difficulties become familiar with the information that is contained on the reading guide prior to reading the text selection.

Before Reading. Help students perform a walk-through of the selection prior to reading (McKenna, 2002). This includes focusing first on pictures and graphics and then asking students to make predictions about the pictures prior to reading the captions. Finally, have students examine the subheadings and help them to recognize how the selection is organized using the subheadings. Another prereading task is to build background knowledge. This is accomplished by discussing any introductory material contained in the selection (e.g., terms, guiding questions). Next, read the first paragraph aloud to help the class further build background by discussing terms, asking questions, and making predictions.

During Reading. Once the background is built, ask students to silently read the next paragraph (McKenna, 2002). If students have difficulty, provide assistance as needed. Then ask a student to read aloud the same paragraph. Ask students questions to help them connect the new information just read with background knowledge. Teacher think-alouds

can help students learn how to process the new information. Suggesting analogies also can aid students in relating the new information to what they already know and understand.

After Reading. Ask students to complete the part of the reading guide that pertains to the paragraph just read and discussed (McKenna, 2002). Monitor and provide assistance as needed while students are completing the reading guide. Repeat the during-reading and after-reading steps (i.e., silent reading, oral rereading, discussion, and guide) throughout the entire selection, working on a paragraph or a small section (e.g., two to three paragraphs) at a time.

Follow-up Activities. The final step in GRITS is to facilitate a postreading discussion of the entire selection using the completed reading guide (McKenna, 2002). Discussion topics should not be limited only to the reading guide.

REQUEST: ASKING SELF-DECLARED QUESTIONS

Although ReQuest originally was used for one-on-one instruction, this strategy easily can be adapted to help students in a content area classroom think while they read (Vacca & Vacca, 2002). Thus, the students ask self-declared questions in an active search for meaning. As noted in earlier chapters, students with learning difficulties need practice in formulating good questions that will guide their reading. Vacca and Vacca (pp. 207–208) outlined the following rules and adaptations for using ReQuest in the content area classroom:

1. *Teacher and students silently read the same text segment.* The teacher should consider using short passages (i.e., even those of one or two sentences) for students who have difficulty with comprehension.

2. *After the teacher closes the book, students question their teacher.* The teacher can show students that it is human to err while he or she is in the "hot seat" being questioned. Encourage students to ask the types of questions that a teacher might ask. The teacher may ask the students for clarification if he or she does not understand a question being asked. Variations: Have students alternate the role of questioner for each question in order for more students to participate in the activity. Have students work in ReQuest teams of three or four students that participate against each other with the teacher being the facilitator.

3. *The teacher and students exchange roles.* That is, the teacher asks the students about the text segment read. Students should be cautioned that "I don't know" is not an acceptable answer. If they do not know an

answer, then they must explain why they do not know the information being queried. Students may justify their answers by making reference to the text. The teacher should model asking good questions and asking a variety of kinds of questions to help students improve their questioning techniques.

4. *Steps 1, 2, and 3 are repeated for each section of text read.*

5. *Students make predictions about the remainder of the reading material assigned.* When students have processed sufficient information to make predictions about the remainder of the reading assigned, the teacher will ask students to make their predictions and justify why they chose these predictions. The teacher should encourage students to speculate or take a risk with their predictions.

6. *Students silently read the remainder of the reading material assigned.*

7. *The teacher facilitates a class discussion of the material just read.*

IDEA CIRCLES

Teachers may be familiar with literature circles (also known as literature study groups and book clubs) in which a small group of students read the same story, poem, article, or book and individuals within the group perform a specific task to help facilitate a discussion (Daniels, 1994). The group meets regularly and rotates the following possible discussion roles at each session:

- *Discussion director.* Generates discussion questions, convenes the meeting, and solicits contributions from the other group members.
- *Literary luminary/passage master.* Reads aloud important, memorable sections of the text.
- *Connector.* Helps group members connect real world ideas with text readings.
- *Illustrator.* Provides a graphic response to the text.
- *Summarizer.* In one or two minutes, highlights the key points and gist of the day's reading at the end of the meeting.
- *Vocabulary enricher/word wizard.* Records interesting or unfamiliar words encountered during reading and uses a dictionary or glossary to provide definitions during the literature circle.
- *Investigator/researcher.* Provides related background information (e.g., information about author, historical events, geography). (Adapted from Vacca et al., 2003.)

Teaching Tip 6.3

Helping Students Share Information in Circle Activities

Some teachers may be afraid to turn their students loose with cooperative activities such as circle discussions. One key to making these successful learning activities for students is to make sure that students know and practice the rules.

How to Share

- Keep conversation going and avoid long pauses
- Respond to questions asked by other group members
- Give elaborative responses—tell why you responded as you did
- Challenge other group members' interpretations of the reading
- Clarify questions, responses, and ideas
- Remain on task
- Include all group members when discussing
- Give all group members a turn

What to Share

- Written responses supporting the discussion
- Questions to clarify and spark interest
- Personal reflections and background knowledge
- Activities that help construct meaning and support ideas
- Interpretations that involve higher-order thinking (i.e., go beyond literal interpretation)
- Feelings about the text read
- Real world connections (e.g., books, movies, television shows)
- Evaluation of the text read

SOURCE: Adapted from Goatley (1997).

When the intended reading and discussion is finished, the information is shared with the larger community (e.g., class, school; Daniels, 1994). See the above teaching tip to help students know how and what to share.

Idea circles, similar to literature circles, are peer-led small group discussions (i.e., three to six students) of concepts with the information obtained from multiple text sources (Guthrie & McCann, 1996; Vacca et al., 2003). The interaction rules (described in the teaching tip above) must be discussed explicitly, particularly for students with learning difficulties. If students read different informational books, then they can

bring unique information to the idea circle discussions. You may want to have all students read a common passage from a text and then ask each of them to choose different related readings from books or reputable Internet sites. For students who struggle with decoding or even for younger students, listening to a teacher read books or listening to books on audiotape may be an option.

Make sure that all students know the goal of the idea circle. In the beginning, tell students what they must accomplish and the amount of time they have to work on the task. Setting a timer may be helpful for students with learning difficulties to assist them with monitoring their time. Students may have to collaboratively or individually complete a sheet to guide discussion in 15 minutes. A variation is to have students individually prepare guided discussion sheets prior to the idea circle meeting and then they collectively prepare one sheet summarizing the information brought to and contained in the discussion. A blank reproducible guided discussion sheet and a sample discussion sheet follow. Final products resulting from the idea circle may be either individual or group efforts. Vacca et al. (2003) suggested that students might pool their efforts and prepare a graphics presentation for the class on their topic.

INTRA-ACT: SHARING PERSPECTIVES

When students with learning difficulties read content area materials, they need to not only comprehend what they have read, but also be able to participate in perspective sharing. In other words, they need to assess their own reactions to the material and be willing to hear the reactions of others. Intra-Act provides the groundwork for such reflective discussions (Vacca & Vacca, 2002). Students should work in small groups (i.e., four to six students, one of whom is the team leader) through the following four phases of Intra-Act:

1. *Comprehension.* The teacher facilitates student comprehension by introducing the text selection and helping students to use effective prereading strategies such as

   - Activating and building background knowledge
   - Making predictions about the content to be learned

The student team leader initiates and sustains a 7 to 10 minute (less for younger students) discussion of the text material read. Group members may add information or ask clarification questions.

2. *Relating.* The team leader shifts the discussion (7–10 minutes, or less for younger students) from important ideas in the reading to individual reactions to what students have read.

Idea Circles Discussion Guide

Subject: _____ Topic: _____ Grade: _____

Information needed	*Source*
Important facts	
Opinions and perspectives	
Misconceptions	
Positive features	
Negative features or problems	

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Idea Circles Discussion Guide Subject: Science Topic: Birds Grade: 3	
Information needed	*Source*
Important facts about birds • Kinds • Where they live • How they fly • How they reproduce	• Video watched in class • Classroom poster • Textbook • Encyclopedia
Opinions and perspectives • Protecting birds • Killing birds	• Interview friends and family • Organization web sites
Misconceptions • All birds fly	• Web sites
Positive features of birds • Beauty and music • Eat insects and worms	• Video • Web sites
Negative features or problems • Carry diseases • Make messes	• Textbook • Magazines

3. *Valuation.* The team leader distributes a game sheet to each group member. A reproducible blank game sheet is included at the end of this chapter. The game sheet contains four declarative statements based on the reading for which students may have differing opinions. Each student establishes personal meaning by agreeing (circling A) or disagreeing (circling D) with each statement. Next, each student must predict how each of his or her team members will respond by circling A or D for each statement under the column for each respective group member's name.

4. *Reflection.* Each member scoring his or her game sheet begins the reflection phase of Intra-Act. As each group member indicates his or her response for each of the four statements, the remaining group members note whether their predictions are the same as the actual member's response. A + is placed on the blank line for each prediction that is the same as the respective member's response. A – is placed on the blank line for each prediction that is not the same as the respective member's response. The teacher facilitates the reflection phase to help students reflect on what they have learned. Students should be given adequate time to discuss and challenge each other's perspectives. The teacher

may need to provide extra assistance to younger students with learning difficulties in recording their game sheets. Another option would be for the teacher to guide the students through verbalizing their perspectives and then record the information on the board or an overhead transparency. (Adapted from Vacca & Vacca, 2002, pp. 236–238.)

Students with learning difficulties will need repeated participation in Intra-Act activities to help them learn their discussion roles. The teacher may want to have a class debriefing after Intra-Act is used each time to help students determine what they learned from the process and how they can improve the process in the future.

QUESTION–ANSWER RELATIONSHIPS

After students have read content area selections, teachers often ask them to answer questions either orally or in writing to demonstrate their comprehension of the material. With the size of current content texts and the length of chapters, students with learning difficulties may be overwhelmed by the amount of information they must search in order to locate answers to end of the chapter questions or other questions asked by the teacher. Students need to learn how to recognize the resources they will need for answering particular questions. For example, Bos and Vaughn (2002) noted three arbitrary categories in which students must be able to distinguish between literal and inferential questions:

1. *Textually explicit.* Information can be obtained directly from the text material read, with only minimal use of the reader's background knowledge.

2. *Textually implicit.* Information can be obtained from the text material read, but the reader is required to activate background knowledge to use along with text information.

3. *Scriptually implicit.* Information cannot be located in the text, but must be obtained solely from the reader's background knowledge. (Adapted from Bos and Vaughn, 2002, p. 186.)

Swanson and DeLaPaz (1998) suggested that teachers show students how to identify question–answer relationships and then give them opportunities to label different kinds of questions according to the relationships. Teachers will need to make sure that students examine both the question and the answer to label the appropriate relationship. Rather than using the terms *explicit* and *implicit*, students with learning difficulties will find it easier to differentiate between "in the book" and "in my head" kinds of questions. Teachers should give students practice

Intra-Act Game Sheet

Group Member Names →					
Statements ↓					
1.	A D ____	A D ____	A D ____	A D ____	A D ____
2.	A D ____	A D ____	A D ____	A D ____	A D ____
3.	A D ____	A D ____	A D ____	A D ____	A D ____
4.	A D ____	A D ____	A D ____	A D ____	A D ____

in answering both kinds of questions and ask them to reflect on how they knew the answers. For example, young students learning about the state in which they live (e.g., Georgia) might have to determine whether the following are "in the book" questions or "in my head" questions.

- What is the name of the state where I live? (in my head)
- What is the capital of the state where I live? (in my head)
- How many counties are in the state where I live? (in the book)
- What are the names of two towns or cities in the state where I live? (in my head)
- What is the name of the governor in the state where I live? (in the book)
- What are the main crops that are grown in the state where I live? (in the book)

CONCLUSION

This chapter presented strategies for teachers to use in content area instruction for students with learning difficulties in the elementary and middle grades, with a focus on reading and studying chapters in school textbooks, content vocabulary development, and comprehension strategies. During the first reflection exercise in this chapter, you were asked to generate a list of guiding principles for teaching content area literacy and to add to the list and talk with colleagues about their ideas as you read through this chapter. You now may wish to consult the last teaching tip in this chapter, Instructional Practices to Promote Content Area Literacy, to see if there are additional teaching principles you would like to add to your list or learn more about. You also may wish to consult Chapter 5, Gaining Meaning From Reading. Some of the comprehension strategies in that chapter also may be helpful in teaching content area literacy.

Teaching Tip 6.4

Instructional Practices to Promote Content Area Literacy

Teachers can do so many things to help students with content area literacy. You will note that the strategies presented in this chapter incorporate a number of the following best practices. Keep this list handy to review periodically which of the best practices you currently are incorporating into your instruction and those that you would like to incorporate.

Before Reading

1. ____ Assess students' background knowledge.
2. ____ Help students access and add to their background knowledge.
3. ____ Introduce new vocabulary terms and stress relationships among them.
4. ____ Ensure that students know the specific purpose for reading a particular selection.
5. ____ Help students preview the selection to be read.
6. ____ Encourage students to make predictions about what they will read.

During Reading

7. ____ Encourage students to self-question the selection.
8. ____ Ask students to note unknown words and concepts and to use references if needed.
9. ____ Remind students to take notes or record key ideas on graphic organizers.

After Reading

10. ____ Relate discussions to the specific purpose determined prior to reading a particular selection.
11. ____ Encourage all students to participate in class discussions.
12. ____ Encourage students to question and challenge each other's contributions to class discussions.
13. ____ Promote written interaction of teacher with students as well as students with peers.
14. ____ Provide opportunities for students to extend vocabulary knowledge.
15. ____ Relate new material to previously learned material.
16. ____ Make explicit real-world connections to the material read.
17. ____ Assist students in summarizing and synthesizing information that they have read.

Other

____ Help students develop good study habits.
____ Discuss test preparation and test-taking strategies with students.
____ Modify reading assignments and instructional practices to meet individual student and class needs.
____ Incorporate alternative means of assessment (e.g., projects, reports, graphic organizers, drama presentations, PowerPoint presentations).
____ Incorporate technology when appropriate.
____ Provide opportunities for student choices.
____ Provide access to a variety of print materials related to specific content areas.
____ Use teacher read-alouds and picture books in instruction.

SOURCE: Adapted from McKenna and Robinson (2002, pp. 49–50).

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Resources

Commercially Available Reading Programs

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Reading and Literacy Programs Reviewed Include

- ✔ SRA Reading Programs
- ✔ Orton-Gillingham Failure Free Reading Program
- ✔ The Herman Method for Reversing Reading Failure
- ✔ The Wilson Reading System
- ✔ Earobic Literacy Language Program

In addition to the programs reviewed in Chapters 1–6, a number of other reading programs are used widely in the field for students with learning disabilities and other reading disorders. Several of the most widely used programs are described below. These include the SRA (Scientific Research Association) direct instruction programs, the Orton-Gillingham reading method, the Herman Method for Reversing Reading Failure, the Wilson Reading System, and Earobics. These programs

are described in order to assist you in your selection of appropriate supplemental reading materials.

THE SRA READING PROGRAMS

Description of the Program

In response to the need for research-based reading interventions, SRA/McGraw-Hill offers Open Court Reading (SRA/McGraw-Hill, 2002), a systematic method balancing literature and phonics instruction designed to improve both reading fluency and comprehension. Open Court Reading is designed such that no assumptions are made about students' prior knowledge. Each skill is systematically and explicitly taught in a logical progression, to enable understanding and mastery (SRA/McGraw-Hill, 2002). Phoneme-based instruction emphasizing letter sounds is the hallmark of this program as recommended by the National Reading Panel (NRP; National Institute of Child Health and Development, 2000). The Open Court Reading program includes educational materials and strategies for kindergarten through sixth grade. A scaffolded approach is used to build skills, and the reading materials are based on the real world for meaningfulness and application of ideas. Reading material is selected to reflect the world in which students live and add to their general knowledge foundation.

Reading instruction uses a broad-based approach. Students receive planned instruction in the areas of decoding of letter sounds, comprehension, inquiry and investigation (learning how to apply what you have read) and writing. There are also applications for teaching spelling, vocabulary, grammar, usage and mechanics, penmanship, and listening, speaking, and viewing (SRA/McGraw-Hill, 2002), making this a comprehensive literacy program.

Open Court promises fluent, confident readers by the end of first grade. This program as outlined by the SRA Web site (see www.sra4kids.com) is intended to

- Develop children's print awareness through reading aloud
- Encourage phonemic awareness through games, puppets and language activities
- Teach the alphabet and how it works with Pre-Decodable and Decodable Books, Alphabet Cards, Chart materials and carefully structured activities for kindergarten classrooms
- Teach sound/spelling associations systematically using Sound/Spelling Cards
- Teach blending as a strategy for accessing unfamiliar words with Sound/Spelling Cards and encourage children to build fluency and read context independently using Decodable Books in Levels 1–3

- Develop spelling strategies through Dictation and Word-Building Activities

- Each three part lesson includes:

  Part One—Preparing to Read: Sounds and letters; phonemic awareness; phonics and fluency; and word knowledge

  Part Two—Reading and Responding: Comprehension skills and strategies; and inquiry

  Part Three—Language Arts: Spelling; vocabulary; writing process strategies; writer's craft; English-language conventions; grammar, usage, and mechanics; listening, speaking, and viewing; penmanship; and basic computer skills

SOURCE: www.sra4kids.com

In addition, SRA offers the Corrective Reading program designed for students with reading problems or who are at risk for reading failure. This program has been extensively tested in public school classrooms, and this research base documents the efficacy of this program. Corrective Reading includes a scripted presentation approach (i.e., recommended teacher instructional dialogue is explicitly stated in the instructional manual), and complete learning materials needed for each lesson. Like the Open Court Reading program, Corrective Reading allows students to work in a decoding program, a comprehension program, or both.

This program includes a point system based on realistic goals to motivate students who often expect to fail. It is designed to accelerate student learning for those children who are behind their peers in reading skills. Each skill is broken down into subskills, which are taught through direct instruction and practiced until mastery level of each skill is achieved. The high level of proficiency allows students to generalize learned skills to other settings. This program is broader in scope and sequence than the Open Court program.

The SRA Corrective Reading program includes the following features:

- Field-tested in reading, spelling, language arts and math problems
- Tightly-scripted lesson plans leave no guesswork for teachers
- Interactive lessons require frequent verbal responses from students
- Teachers monitor and correct errors immediately
- Lessons are presented to small groups of students
- Students are grouped by performance level
- Frequent assessment of student progress means no child fails
- Presentation books provide maximum effectiveness and efficiency during instruction
- Totally integrated skillbooks, textbooks and authentic literature support the skills and strategies

SOURCE: www.sra4kids.com

Table 1 Characteristics of SRA programs

Program	*Features*	*Supplementary Materials*	*Support*
Open Court (K–6)	Pretests Phonemic awareness Blending Oral practice Comprehension strategies	Activity books Collections for young scholars Web site activities	Professional development Web site resources Online support
Corrective Reading (PreK–12)	Phonics High-frequency practice Extensive review Scripted presentation	All materials included	Professional development Web site resources Online support

While the SRA programs are similar in many ways and emphasize the instructional mandates of the NRP (NICHD, 2000) report, there are notable differences between these programs.

Table 1 presents a summary comparison of these programs.

Research Support

These curricula are supported by many studies, including these two recent examples. A study completed in Lee County, Alabama, evaluated the effectiveness of the Corrective Reading program with 4th-grade and 7th- to 10th-grade students who were at risk for reading failure. At-risk students were defined as students who scored below the 23rd percentile on the Stanford Achievement Test. Selected students were pulled out of the general education classroom to receive approximately 60 hours of instruction in Corrective Reading. Target students in the fourth grade improved an average 10.5 percentile points on the Standard Achievement Test compared to the district average loss of 3.5 percentile points. Sixty-six (80%) of the at-risk students made significant gains and 44 moved out of the at-risk category (SRA/McGraw-Hill, 2002).

A study conducted in California compared schools using the Open Court program with schools using traditional basal series. Participating students included those with limited proficiency in English and from low socioeconomic backgrounds. Schools from 41 school districts enrolled approximately 137,000 students. Scores for these students were compared to students' scores from 274 randomly selected schools with similar demographic makeups. These schools used traditional language

programs. Students in the Open Court schools achieved gain scores on the Stanford Achievement Test, 9th Edition, in total reading of 19.2% for second grade and 12.7% for third grade students compared to 12.3% for second grade and 7.2% for third grade students in schools not using the program. These data, along with other research, are available on the company Web site at www.sra4kids.com/index.phtml

THE ORTON–GILLINGHAM FAILURE FREE READING PROGRAM

Description of the Program

The Orton–Gillingham-based reading programs, produced by the Institute for Multi-Sensory Education (ISME; 2002), are based on the Orton–Gillingham method of reading instruction developed by Dr. Samuel T. Orton and educator Anna Gillingham (see www.orton-gillingham.com/orton-gillingham1.asp). Originally intended for use with children with learning disabilities, these programs are currently used with all struggling readers at the elementary level. The methodology uses phonetics and emphasizes visual, auditory, and kinesthetic learning styles. Perhaps the best known of these programs is the Failure Free Reading Program.

In this program, interactive group instruction begins by focusing on the structure of language and gradually moves toward reading. The programs are both language based and success oriented. They provide students with immediate feedback and a predictable sequence that integrates reading, writing, and spelling. In addition, the phonetic strand is placed into existing curricula, allowing flexibility in topics for the classroom teacher. The organized process is intended to offer phonetic, sequential, and success-oriented programs for teachers and parents to use to enhance children's skills in reading, spelling, and writing.

Using the ISME Orton–Gillingham programs, students are explicitly taught reading, handwriting, and written expression skills as one logical body of knowledge—thus this represents the more comprehensive literacy approach (see discussion in Chapter 1). Learners move step by step from simple to more complex material in a sequential, logical manner that enables students to master important literacy skills.

The comprehension component of the program was designed to improve students' ability to read for comprehension and retention by allowing students to participate in reciprocal teaching activities (see Bender [2002] for a description of reciprocal teaching). Students learn and remember material more effectively as they assist their peers in learning the presented curriculum.

Important concepts of the Orton–Gillingham method, as outlined by the Institute for Multi-Sensory Education Web site (see www.ortongillingham.com) include an emphasis on:

- Phonemic awareness
- Syllabication patterns for decoding and encoding
- Multisensory techniques for sight words
- Reciprocal teaching methods for the reading classroom
- Advanced spelling techniques
- Informal assessment
- Guidelines for weekly lesson plans
- Multisensory strategies for reading, writing, and spelling

Teacher training and support are important components of this program. Several training program formats are available from ISME including an initial Overview for Staff Development, a 16-hour core training program, and a 30-hour comprehensive training program. College credit from the University of Michigan at Dearborn is available for teachers in these programs. In addition to these more comprehensive group-training programs, there are also training resources which include classroom consultation, refresher workshops, lessons in Greek and Latin roots, and training for individual teachers.

Research Support

In a study conducted by Barney Rankhorn and Grace England (1998), the authors investigated the use of the Failure Free Reading Program with special education students with severe reading disabilities. The program was used to supplement instruction for approximately seven months. Thirty-nine students from a suburban school district in a southwestern state participated in this study. Students with learning disabilities represented 52% of the special education population (Rankhorn & England, 1998). The scores for each student's most recent performance and individually administered IQ assessments were secured from school records. All students with learning disabilities demonstrated a minimum discrepancy of 20 points between measured IQ and achievement.

First, teachers were trained in the Failure Free Reading Program. Each student was pretested and posttested using tests of letter–word identification, word attack, reading comprehension, and dictation. Next, students participated in a daily instructional period of 30 minutes maximum using the printed materials for the Failure Free Reading Program. Comparisons of reading achievement as measured by the posttests and expected ability and achievement were completed to evaluate the effects of the pilot program. Reductions in discrepancies between reading achievement and expected ability were significant in all areas evaluated. Average posttest discrepancies were reduced to one standard deviation of 15 points or less between expected and achieved performance. In

addition, decreases in discrepancies between pretest and posttest scores for comprehension were substantial (63–85%). At the conclusion of the study, 31% of the students exhibited severe discrepancies in reading achievement (i.e., letter and word identification); this represented more than a 50% drop for this group from the beginning of the school year in the number of students exhibiting a significant level of discrepancy (Rankhorn & England, 1998).

THE HERMAN METHOD FOR REVERSING READING FAILURE

Description of the Program

The Herman Method for Reversing Reading Failure is a multisensory, bi-hemispheric brain-based approach to help students compensate for their visual and auditory processing problems (Herman Method Reading Institute, 2002). This program is based on the Orton–Gillingham philosophy and is a remedial program for struggling readers at all grade levels.

This program is separated into 20 sequential levels of instruction for reading with each level containing a spelling and handwriting component to reinforce reading skills. Daily lesson plans with specific goals and objectives for teaching each skill are included in two teacher guides. Each level also includes a review of previous skills so students are able to maintain skill levels that they have achieved. While this program was designed for students with learning disabilities, it also offers effective teaching strategies for nondisabled students experiencing difficulties in acquiring reading skills.

Several aspects of the Herman Method make it an effective strategy for teaching reading. First, the Herman Method coordinates visual, auditory, kinesthetic, and tactile information for teaching each reading and spelling skill. This multisensory approach is intended to assist students in compensating for problems with retention, visual and auditory processing, spatial orientation, and sequencing by accessing both hemispheres of the brain. Second, the method uses a comprehensive approach to teaching a variety of literacy and language skills. Decoding, encoding, structural analysis, sight words, contextual clues, and dictionary skills are included. Further, there is a consistent emphasis on comprehension skills. Finally, the program is success oriented. Skill levels range from simple decoding to independent reading with multiple opportunities for review and reinforcement of skills to ensure that mastery is obtained. Program activities include phrase list reading, sentence cards, software programs, workbook activities, computer instruction, practice readers, and reading games (Herman Method Reading

Institute, 2002). Teachers can find additional information on this program at the company Web site (www.hermanmethod.com).

Research Support

The effects of commercially produced software on phonemic awareness of students using the Herman Method for teaching reading was evaluated in a study by Lynne Bowman (1999). Participants in this study were 13 middle school students (ages 11 to 15) in a self-contained special education classroom. All students were identified as learning disabled or functionally delayed according to the state of Tennessee guidelines for eligibility. These students were similar in reading ability. Students were separated randomly into two groups. The experimental group of seven students used the Herman Method and program software. The control group of six students did not use the software program, but received instruction using the Herman Method for the direct instruction portion of the class. Each student received 25 minutes of reading instruction and 25 minutes of handwriting instruction daily. All students in the study also used the computer for 25 minutes each day. Three days each week the treatment group's computer time was spent using the Herman Method's "Curious George Learns Phonics" interactive software. A repeated measures design was used to analyze the pretest and posttest data. The pretest was given before any reading instruction began. The test given to both groups consisted of an assessment of word analysis and decoding skill.

These data were analyzed using an independent *t*-test. All students using the Herman Method improved significantly on each of the posttreatment assessments. In addition, those using the software also improved in their ability to work with rhyming words, while the control group did not (Bowman, 1999). This research provides evidence to validate the Herman program.

THE WILSON READING SYSTEM

Description of the Program

The Wilson Reading System (Wilson, 2002) was developed by Barbara Wilson, and is a research-based reading and writing program, which uses a multisensory approach to teach a structured language program. It is a complete curriculum for teaching decoding words and spelling (referred to in this program as "encoding"). The program begins with phoneme segmentation. The Wilson Reading System directly teaches the structure of words in the English language so that students master the coding system for reading and spelling. English is presented in a systematic and cumulative manner that is manageable rather than with a multitude of

rules that may confuse students. It provides an organized, sequential system with extensive controlled text. A special feature of this program is that it was developed for students above third grade and may be used through middle and high school grade levels.

The basic purpose of the Wilson Reading System is to teach students fluent decoding and encoding skills to the level of mastery. From the beginning steps of the program, it also includes sight word instruction, vocabulary, oral expressive language development and comprehension. Throughout the program a 10-part lesson plan—designed to be very interactive between teacher and student—is followed. The lessons progress from easier to more challenging tasks for decoding and then spelling. The system ends with fluency and comprehension work. Specific qualities as specified by the Wilson Language Training Web site include

- Research based on more than ten years of data.
- A systematic and cumulative approach to teach total word structure for decoding and encoding designed for students beyond grade three, adolescents, and adults.
- Includes extensive controlled text (wordlists, sentences, and stories) for application of practice skills.
- Uses a unique "sound tapping" system early in the program to help the student learn to differentiate the phonemes (speech sounds) in a word. This technique is used for both segmenting and blending sounds.
- The scope and sequence emphasizes six types of syllables.
- Coding of words is more limited than some programs; emphasis is primarily on application, coding is used as reinforcement.
- There is less emphasis on overwhelming students with the language of rules and more emphasis on the understanding and fluent application of the rules.
- Uses a simplified method of syllable division with penciling technique used for tracking.
- Teaches all concepts throughout the program with the manipulation of cards (sound cards, syllable cards, and suffix cards).
- Fluency is emphasized from the beginning.
- The program is comprehensive; it is designed to follow students from one grade to the next, as needed.
- Criterion-based assessment is built into the program and measures student progress and success.

SOURCE: www.wilsonlanguage.com

Research Support

In a first-year report of a three-year intervention study by Dickson and Bursuck (1999), a model was implemented for preventing reading

failure using several reading programs, including Wilson Language Training. The study involved a three-year professional development program in two rural elementary schools. One portion of the study investigated intensive reading instruction for students with diverse learning needs using the Wilson Language Training Program. Teachers in this segment received training in use of the program. Students in this segment of the study included 20 kindergarten through third-grade children who were eligible for Title I and were significantly behind peers in reading ability. A pullout procedure for instruction was used four days per week for 15 minutes per day over a 15-week period, and instruction was delivered to small groups of approximately three students each. Instruction emphasized segmenting of words, letter–sound correspondence, spelling, and reading phonetically controlled words in context. Students participated in activities designed to improve skills in these areas. Activities of the program consisted of listening to sounds, manipulating color-coded sound cards, finger tapping to segment words into phonemes, writing, and reading. Teachers did modify the program somewhat to include predictable text and meaning-based trade books. Pretest and posttest information was collected using the Test of Phonological Awareness. Students made significant gains on the subtests for rapid letter-naming fluency, segment fluency, letter-sound correspondence accuracy, invented spelling, and word attack. Gains ranged from 12 to 30 points with the gains made for letter-sound accuracy and invented spelling subtests being the greatest. The researchers concluded that the Wilson Language Training Program showed promise in reducing reading failure.

EAROBICS LITERACY LANGUAGE

Description of the Program

Cognitive Concepts' Earobics Literacy Launch is a research-based supplemental reading program designed to provide elementary reading students in prekindergarten through third grade with the fundamental skills required for reading success. The goal of this program is to facilitate the transition from spoken language to print. Similar to the Fast ForWord Program described in Chapter 2, this reading instructional program draws heavily from the recent brain compatible instructional research as a research base for many of the activities in the curriculum. A combination of technology, multimedia tools, and print materials are used to accomplish the goal of developing students' skills in fundamental language areas.

Earobics Literacy Launch also integrates technology into classroom activities. The technology component adjusts to the needs of each student by providing systematic, individualized instruction. Student achievement

is easily documented and can be evaluated with built-in data reporting. Important components of the program as outlined by the Cognitive Concepts literature (2002) and Web site (www.earobics.com) include

- Scientifically based
- Research proven
- Improvement in student performance for phonological awareness, vocabulary, fluency, phonics, reading comprehension
- Ensures success of existing literacy curriculum
- Integrates technology into the classroom
- Supports English Language learners

The Earobics program maintains a high interest level by providing students with a wide variety of activities. Phonemic awareness is developed using interactive Earobics software. The software games are not only engaging for students, but also adapt to each student's skill level. Students work through lessons at their own pace. Classroom activities, songs, and chants strengthen language enrichment skills. They are designed to encourage the acquisition of vocabulary, language concepts, and the production of sounds, words, and sentences. Hands-on activities, letter and word cards, and alphabet manipulatives are used to teach knowledge of letters and sounds. This knowledge of letters and sounds is expanded into word analysis. Abilities such as decoding, spelling, and recognizing sight words are developed through manipulating letters on alphabet mats and practicing the identification of words both in isolation and in context.

As students master skills, they experience sounds and stories while reading with teachers or independently. Materials used in the program include big books, little books, take-home books, talking CD-ROM books, and books on audiocassettes and videotapes. Composition skills are incorporated as well, through shared writing activities with Earobics Literacy Launch literature and materials.

Research Support

Cognitive Concepts (2002) offers empirical evidence for the efficacy of the Earobics Literacy Launch program. A pilot study was completed in January 2001 in the Newport Public School System to examine the effectiveness of the Earobics Literacy Launch program. Kindergarten students from eight schools participated in the 12-week study. Students were divided into a control group of 293 students and an experimental group of 292 students. All students were administered the Phonemic Awareness Test (Parts A and B) as a pretest. A posttest version of the Phonemic Awareness Test (Parts A and B) was administered after the study was completed. Part A of this test assesses students' abilities to identify initial and final sounds of words and to identify rhyming

words. Part B assesses students' skills in blending phonemes into words and segmenting words into syllables and phonemes. Teachers of the students in the Earobics group received teacher resource materials consisting of lesson plans, group activities, and information on classroom management. These teachers also were given training in the program, which consisted of an overview of the literacy research, practice with the Earobics materials and software, and sessions on relevant topics. Students in the experimental group used the Earobics software for a minimum of three 20-minute sessions per week. They also received instruction with correlated activities, literature, and multimedia materials. Students in the control group received phonemic instruction, but did not use the Earobics software or materials.

An analysis of pretest and posttest scores revealed that students using the Earobics program increased the percentage of correct answers by students on the Phonemic Awareness Test–Part A by an average of 34 percentage points, while students in the control group increased by only 29 percentage points. The increase achieved by the students using the Earobics program was statistically higher than the control group students. In addition, students in the group using the Earobics program improved by an average of 39 percentage points on the Phonemic Awareness Test–Part B. Students in the control group increased by an average of 25 percentage points on the same test. The scores for the Earobics group were again statistically higher than for the control group.

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Glossary

Advance organizer: A preview or outline of learning tasks presented in oral or written form prior to beginning the body of the lesson to help students (a) focus on the lesson, (b) understand the teacher's expectations for the task, and (c) connect new and previously learned information.

Affix: Usually a prefix or suffix that is attached to a base or root word.

Alphabetic code: The relationships between letters and the sounds they represent.

Alphabetic principle: Characters that represent sounds.

Analogy phonics: Students learn new words by using analogies to familiar words. Also known as *word families*. For example, *cat, hat,* and *sat* are in the *at* word family. Students may learn the new word *mat* by being familiar with other words that are in the *at* family.

Analytic phonics: Students analyze letter–sound relations from familiar words.

Anchored instruction: Use of video examples to provide a situational context, or anchor for learning a new vocabulary term or new concept. By providing video examples of a shark attack, students with learning difficulties can master vocabulary terms such as *feeding frenzy* more easily.

Angular gyrus: A region of the brain responsible primarily for processing of written language and other language functions.

Automaticity: Instant decoding of letters or other stimuli, such that the brain processing involved in decoding these letter sounds is automatic.

Background knowledge: Knowledge that students have based on experiences or previously learned information.

Base word: A word to which prefixes or suffixes may be added.

Broca's area: A region of the brain responsible for language, also active in the reading process.

Cloze procedure: A structured fill-in-the-blank activity in which a student uses the content and context of the reading passage to select the vocabulary terms that correctly fill in the blanks in the reading passage.

Collaborative strategic reading (CSR): A strategy to improve reading comprehension using heterogeneous groups in multilevel classes.

Comprehension: To understand and attribute meaning to what is read or heard.

Concept circles: Using sections within a circle to teach various aspects of a particular concept. A divided circle (divided into quarters, or fifths—whatever is appropriate) is drawn with the related subcomponents written into each portion of the divided circle. Students work to describe the relationships between the vocabulary terms in the circle.

Configuration clues: A sight-word instructional technique that involves drawing boxes around letters in words to concentrate on the shape of the word in order to learn the word.

Consonant blend: Two or three letter combinations of consonants that are blended together. Each letter sound is pronounced quickly to form the blend (e.g., *bl, cl, scr, squ*).

Consonant digraph: Two consonant letters that form one sound (e.g., *sh, th*).

Content area reading: Reading in subjects where students learn content (e.g., facts, concepts) as opposed to learning skills (i.e., how to do something).

Context clues: A sight-word instructional technique that involves using other text or pictures presented in the text to determine the meaning of new words.

Coop-Dis-Q: A strategy that combines teaching tactics from cooperative instruction, group discussion, and questioning tactics.

Decoding: To determine what sounds particular letters make to decipher words.

Developmental instruction: Instruction that is based on students' needs and current levels of performance.

DIBELS: An informal assessment of early literacy, from the *Dynamic Indicators of Basic Early Literacy Skills, Sixth Edition.*

Distributed practice: Instruction that involves consistent, active engagement with the new material distributed over a period of time in order to ensure mastery and long-term retention. Research has shown that practice distributed over a period of days is much more effective for learning than the same amount of practice provided all in one day.

Drop Everything and Read (DEAR): A widely used reading practice in which students are assigned to do silent reading for a specified number of minutes each day. According to the National Reading Panel, research has not documented the effectiveness of silent reading programs.

Embedded phonics: An implicit approach in which students learn phonics when it is embedded in text reading.

Expository text: Information that is explained or related to explanation.

Fluency: Also referred to as *reading fluency,* it involves display of effective reading skills, with decoding words at a high level of automaticity. This is demonstrated by a student reading entire words and even phrases together, with appropriate voice intonation and pauses for punctuation.

fMRI: Functional magnetic resonance imaging, a recently developed nonradiological technique that measures the brain's use of oxygen and glucose during the thinking process, and from that information, physicians can determine which brain areas are most active during various types of educational tasks.

Graphemes: The squiggly lines on a page that represent printed letters.

Graphic organizers: A visual representation of relationships between vocabulary terms or concepts in a reading text.

Guided reading in textual settings (GRITS): A reading comprehension strategy used for teaching students in the elementary and middle grades in content areas.

Homograph: Words that are spelled alike but pronounced differently and have different meanings (e.g., tear—make an opening, tear—moisture when one cries).

Hypertext function: A set of software design principles that allow for the presentation of reading texts that have various instructional options built into the program. When using hypertext software programs, a student reading a text may click on a vocabulary term in the text and the software will present either a definition of the term, an illustration, a picture, a video, or a pronunciation of the term.

Inference: Meaning is not readily evident.

Irregular words: Words that do not follow the general rules for spelling or word formation; in the English language, these words account for approximately 15% of all words.

IT-FITS: A learning strategy acronym used to help a child learn new vocabulary terms by creating a keyword for the term.

Learning strategy: A cognitively based series of steps or tasks, which can assist a child in completing an assignment or school task such as learning a new vocabulary term.

Literal: A term used to represent the lowest level of reading comprehension, or understanding the text exactly as stated.

Modeling: Performing part or all of a task to demonstrate to others how it is done.

National Reading Panel (NRP): A panel of reading experts who published a report on reading instruction in 2000.

No Child Left Behind: Federal legislation, passed in 2001, which emphasizes reading instruction.

Onset: The initial sound—usually a consonant sound—in a word.

Paired associate learning: The pairing of two stimuli together—a word and a picture. When this pair is shown to a child with a reading difficulty very frequently, each stimulus takes on the meaning of the other.

Phoneme: The smallest sound that can change the meaning of a word.

Phonemic awareness: The first term used to describe phonemic instruction, which represents a child's ability to detect different phonemes.

Phonemic manipulation: A more recent term than phonemic awareness that represents a child's ability to manipulate phoneme sounds in various ways, including detecting phonemes, segmenting words into phonemes, and other skills beyond mere awareness of phonemes.

Phonics: The mapping of sounds to letters or letter combinations, as well as the ability to decode unknown words based on those letter–sound relationships.

Phonological instruction: A term used to represent phonemic instruction in addition to instruction in interpretation of all speech sounds, including syllables and whole words.

Rime: The latter part of a word that includes the vowel and all that follows.

Root word: A synonym for base word, but typically refers to a base word of Greek origin.

Scaffolded instruction: A form of instruction in which students are provided with supports when needed and then the supports are removed gradually as students demonstrate that they are no longer needed.

Semantic feature analysis: Involves a pictorial representation of the relationships between vocabulary terms, in the context of likenesses and differences.

Semantic web: Sometimes referred to as a semantic map, this is a form of graphic organizer that presents the web or map of relationships between vocabulary terms or concepts in a reading text.

Sight word instruction: Includes instructional techniques that do not depend exclusively upon a student's ability to associate sounds with specific letters; examples would include rote memory of whole words, use of context clues to decode new words, and any attempts to master instant word lists.

Silent sustained reading (SSR): A widely used reading practice in which students are assigned to do silent reading for a specified number of minutes each day. According to the National Reading Panel, research has not documented the effectiveness of silent reading programs.

Synectics: A form of analogous comparison that involves comparing something new or different with something familiar.

Synthetic phonics: Students are taught explicitly to convert letters into sounds or phonemes and blend them to form words. Students learn sounds first and use them to create words.

Venn diagram: A type of graphic organizer in which two circles intersect to illustrate similarities and differences.

Visual cortex: An area of the brain which is located at the lower rear, responsible for visual discrimination of letters and other visual stimuli.

Wait time: The period of time between when a teacher finishes asking a question and when an answer is called for. On average, teachers will wait only 2 or 3 seconds, while 8 to 10 seconds is recommended to allow students with slower processing to consider their answers and raise their hands.

Wernicke's area: A region of the brain responsible for various types of language functions, including auditory processing and comprehension.

Word family: See *analogy phonics.*

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Facilitator's Guide

1

The Reading Brain and Literacy Instruction

MAJOR POINTS

In the preface and in Chapter 1, the overall organization of the book is described as a brain compatible examination of reading strategies. First, a rationale is given for using the terms *reading disorders* and *learning disorders* rather than learning disabilities itself, because many students with learning disabilities are not identified in kindergarten and the early years of school.

Next, a brief discussion of the *big ideas from reading research* is presented as a basis for this introductory chapter. These big ideas from the reading research will be increasingly emphasized in the immediate future, as the federal government has increased it's emphasis on research proven strategies for reading in the *No Child Left Behind* legislation.

Finally, two perspectives are introduced to serve as overall organizational guides for the entire book, including the emerging *emphasis on literacy*, and the growing *brain compatible instruction research in reading*. In particular, David Sousa's model of *"the Reading Brain"* is presented to serve as a model for all aspects of reading. A list of *early literacy skills* is presented, with a time-line for normal development of these skills. Finally, the informal assessment *DIBELS* is discussed, in order to give a sample of one early literacy assessment device.

GENERAL DISCUSSION QUESTIONS

1. What is the rationale for using the term learning disorders rather than learning disabilities in this text? How do the identification procedures for learning disabilities effectively eliminate some children

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with reading problems from services in classes for students with learning disabilities during kindergarten and the lower grades?

2. Discuss the first two "Big Ideas" from reading research together. How does the understanding that reading is not a natural or "hard wired" process impact our instructional strategies in this area, as compared to instruction in, say, language?

3. Have a workshop participant describe the alphabetic principle and the alphabetic code. Should we use the idea of "secret code" as one way to teach early reading skills to students with reading problems?

4. Use the idea of phonemic based instruction as a starting point, and have the teachers identify specific tasks in their reading curriculum materials that do and do not emphasize phonemic manipulation. Are there examples of sight word instructional approaches in modern reading curricula? Why?

5. Review the "List of Early Literacy Skills" and have the teachers generate examples of each skill. Teachers also may be invited to share personal stories of their own children in relation to these skills (e.g., when did my child show interest in having me read a story to them?).

6. Print out copies of Sousa's model of reading from the text, and have the workshop participants "walk through" the model. Students should generate additional examples (using other words) and describe how the various sections of the brain interact in the complex reading task.

7. Have a workshop participant describe how a reading problem may be a timing problem. This is a good discussion to have after the first activity below is completed.

WORKSHOP ACTIVITIES

I. Demonstration of Sousa's Model of Reading

Materials

20 to 25 pieces of poster board 10" x 8"

4 labels of the portions of the brain associated with reading

String to put on each of the labels

4 blindfolds

Tape to tape the 25 pieces of poster board to the dry erase board

1. Understanding the various brain components involved in reading can be critical in understanding reading complexity. Here's a way to use

8 teachers to show the complexity of reading, in a group demonstration activity. Make 4 labels of the major areas of the brain in Sousa's model, and have one teacher "represent" the function of each brain area. Put on the dry erase board a single sentence, with each individual phoneme covered by a single piece of paper (using the 25 pieces of poster board and tape above).

2. Teachers should be paired, with one teacher representing one of the four brain areas, and another serving as a guide for that person. The guides should gently hold the arm of the "brain region" person and not let go for the entire exercise! The 4 pairs of teachers should be standing approximately 10 feet away from the dry erase board, 10 feet from each other, and facing away from the board, in different general directions. The teachers representing a brain area should wear a blindfold, and will be "led" by a guide holding their arms as they need to move to do their particular brain function.

3. To begin the process, the teacher who is functioning as the visual cortex is led to the dry erase board, uncovers the first phoneme, takes a quick peak, and then replaces the blindfold. That teacher is then guided to a position in front of the "Wernicke's Area" person, Say's "take a look," and then "draws" the letter representing the phoneme in the air. This represents the visual cortex function of seeing graphemes that represent phonemes. Note that the visual cortex person does not remove his or her blindfold when standing in front of the "Wernike's Area" position, so as the activity progresses, the visual cortex doesn't know if Wernicke's area is there and ready to receive information or not!

4. When the "Wernicke's Area" person sees a letter or letter combination drawn in the air he or she replaces his/her blindfold, guesses at what the phoneme is, and then is guided to a spot in front of the "angular gyrus" person and whispers the phoneme (remember to whisper the phoneme itself and not a letter name!), since Wernicke's area is the language processing area. In the meantime, the "Visual Cortex" person is guided back to the dry erase board and uncovers another phoneme in order to repeat the process.

5. Once the first phoneme is whispered to the "angular gyrus" person, that person is guided to the front of the "Broca's Area" person and says the name of a letter or letter blend. The Broca's area person will then uncover his/her eyes, and write that letter on a piece of poster board for the group in order to put together the entire sentence.

6. Each "brain area" person should keep the blindfold on except when told to remove it in the instructions above. Continue the exercise until all phonemes are translated onto the final poster by the "Broca's Area" person. Are any errors noted? Does the final sentence make sense?

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7. As a sample sentence use the following (the phonemes are shown for you). The pieces of the pie were served.

Th/ e p/ e/ c/ es o/ f th/ e p/ i w/ er s/ er/ v/ d .

8. To demonstrate some error in the process, the workshop facilitator can stop any transmission of information at any point, and pass along incorrect information. For example, at the point where various phonemes are whispered by the "Wernicke's area" person to the "angular gyrus" person, the workshop facilitator should step in and whisper a different rhyming phoneme to be passed down the line.

9. After the activity breaks down (and it will at some point), have the teachers discuss the functions of the various areas of the brain, and what types of errors occurred.

II. A "Tell Me About It" Activity

When presenting workshops for teachers, one of the most effective small group activities that can be done early in the workshop is to invite the participating teachers to share a problem or challenge they have had with a student in their class. Set up the activity by telling the participants to work in groups of 3 or 4, and share an example of a student with reading problems with the group. Print a sheet with the following questions, followed by 2 or 3 blank lines for the answers, and have the teachers use that sheet as a guide.

1. Describe a student in your class with a reading problem that has presented you with some difficulty.

2. What specific reading behaviors did the student demonstrate? Give very specific examples of his/her reading problems if possible.

3. What strategies did you try to assist this student in alleviating those reading problems? Did those strategies work?

4. What tactics or strategies can the group suggest for this student?

Give the groups approximately 15 minutes to complete these guideline questions. As the groups are working the workshop facilitator should roam around, making independent notes on 2 or 3 of the examples discussed. These examples can provide the basis for additional workshop strategies presented by the workshop facilitator later during the day.

III. A Pre-Assigned DIBELS Internet Research Activity

If possible, have a small group of teachers work in advance of the workshop and investigate the DIBELS assessment that is available on

the internet (at no cost). These teachers should do a short report on the assessment, if possible complete the assessment on one or two children prior to the workshop, and share those results. If a pre-assignment of this activity is not possible, the workshop facilitator should download this assessment and be prepared to share this with the group.

TEACHING ORIENTATION ACTIVITIES

I. Teach Students About Their Brains!

Teachers may wish to use the group demonstration activity above to illustrate the reading process to students. Discuss this option with your participants in the workshop, and identify aspects of the activity above that may not work for students with disabilities.

II. Have Students Develop Their Own Literacy Checklist

Through informal discussion with your participants, delineate some guidelines for using students to develop their own, individualized, literacy checklist. Some of the tactics may involve having the students read a brief passage orally at their appropriate grade level, and then asking a few comprehension question of the student. Teachers should note ideas on how to discuss with their students the types of errors noted in the oral reading, prior to developing the checklists.

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2

Phonemic Instruction

The Critical Emphasis in Reading and Literacy

MAJOR POINTS

This chapter presents a series of strategies for reading instruction using both phonemic and phonological strategies. First, a series of definitions and examples is provided that helps to differentiate various emphases that are frequently confused–*phonological instruction, phonemic instruction, and phonics.* Next, a *hierarchy of phonological skills* is presented that should assist in understanding the developmental nature of these skills. For example, detecting rhyming sounds typically is one of the earliest phonological skills to develop, and this precedes the ability to isolate the sounds of initial consonants, or segmenting a word into discrete phonemes.

Next, a series of instructional strategies and tactics is presented to prepare teachers in the area of phonological and phonemic instruction. In particular the *model of scaffolded instruction* that was originally developed by Kameenui and his colleagues is of interest since it cross-references the phonological basis of reading with the scaffolded approach to instruction. Next, *five guidelines for phonemic instruction* are presented that provide the basis for phonemic instruction. These should be reviewed as a critically important aspect of this chapter.

GENERAL DISCUSSION QUESTIONS

1. What is the difference between phonological and phonemic instruction?

2. How does phonemic instruction differ from instruction in phonics, and which typically precedes the other?

3. Describe the Lindamood-Bell Phonemic programs. How do these programs emphasize for young learners the classes of letter sounds?

4. Kameenui and his co-workers cross-referenced several effective instructional ideas when they used a model of scaffolded instruction to help a child work through "sounding out" a word. Discuss this instructional technique, with an emphasis on phonemic, phonological, and phonics instruction. Discuss why this tactic also could have been presented in the next chapter of this text (i.e., Chapter 3 presents strategies in phonics, and this tactic would have been appropriate to present in that context also; Why?).

5. Describe the five guidelines for phonemic based instruction. In what areas do teachers need more information?

WORKSHOP ACTIVITIES

I. A "Telling The Difference" Activity

Phonics instruction involves instruction in the alphabetic code that associates a particular phoneme (discrete speech sound) with a particular grapheme (i.e., a letter), while phonemic instruction involves a student's ability to manipulate discrete sounds (i.e., without reference to specific letters). Many teachers have some difficulty understanding the distinction between these two types of instruction. One useful technique to emphasize this distinction is to have teachers specifically identify the discrete speech sounds in a particular sentence without saying the letter name for that sound. To do this activity, you should give a four or five word sentence to each workshop participant (or have them work in groups of 3 to 5) and have them say each phonemic sound without using the letter names for the sound. The following sentence can provide a guide for you.

Th / e l / a / k w / a / s d r / i .

II. Discussion of a Brain Compatible Reading Instruction Program

Review the web site for *Fast Forword*. Describe this reading instruction program as one component of the workshop. This is a computer based reading program that builds a student's capability in phoneme detection and manipulation, but allowing the teacher to set the speed

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with which a student hears the discrete phonemes in a word or a sentence. This type of reading instruction probably will provide the basis for most future reading programs, since these tactics are based on the emerging insights from the brain compatible instruction literature.

TEACHING ORIENTATION ACTIVITIES

I. Applying the Guidelines for Phonemic Instruction

Form small groups of 2 to 3 participants to discuss their phonemic based instructional practices. Review the five guidelines for phonemic instruction and have teachers share within their groups the types of phonemic instruction that they are already doing in their class. In particular, have teachers discuss the guidelines that they may not currently be using. For this workshop activity, it may be helpful to have teachers bring in a basal reading text (or their teacher's manual for their reading curriculum) to look for evidence of the application of these guidelines within their specific curriculum.

II. Ordering Phonological Skills

Materials

50 pieces of poster board 3" X 12"

A marker

Masking tape

1. Divide your workshop participants into groups of 5 persons. Begin the activity by presenting the 10 phonological skills that are listed in the first Teaching Tip in a random order on a piece of chart paper in front of the group.

2. Present each group with a set of 10 labels, with each label showing one of the phonological skills. Each group then will determine the order in which phonological skills develop.

3. Give each group approximately 5 to 10 minutes to do their group's work and then compare the results from one group to another, having the groups explain their decisions.

4. Next, hold a discussion about the relative order of these in the development of a child's language. While the order presented in the Teaching Tip in the text is approximately the order presented in the literature, there are some differences in the ordering of these skills from one source to another. Your workshop participants could gain a great deal of understanding if they discussed why certain skills were likely to follow others.

3

Phonics and Word Attack Strategies

MAJOR POINTS

Once students have command of phonemic awareness skills, they must learn how letters are linked to sounds or phonemes. Students with learning difficulties may not understand this alphabetic principle and thus have difficulty pronouncing words and reading at an appropriate, uninterrupted pace. Research has shown some promising practices that may help these struggling readers. Many of these practices include strategies that are tied to students' developmental reading and spelling stages.

Chapter 3 focuses on seven different strategies to help students improve their phonics and word attack skills. *Word Boxes* help students to determine the number of sounds heard in a word in order to match them to the corresponding letters. *Analyzing Words* enable students to self-question in order to recognize and pronounce words. Sorting strategies such as *Picture Sorts* and *Word Sorts* help students to learn word patterns and their associated sounds. *Making Words* activities also give students practice in discovering letter-sound relationships and learning how to find word patterns. *Word Banks* assist students in storing words that they know in isolation and reviewing them on a regular basis. *Word Study Notebooks* provide an organized way for students to keep records of what they have learned about word patterns for easy reference and study.

GENERAL DISCUSSION QUESTIONS

1. How can you ensure that your students are receiving balanced reading instruction (e.g., through the Four Blocks or other approaches)?

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2. Based on the charts in Chapter 3, what developmental levels should you be targeting in your classroom? Remember that not all students in the same grade necessarily will be on the same developmental level.

3. What basic phonics sequence would you follow if you were teaching students in Letter Name–Alphabetic Stage of reading/spelling development? Why?

4. How can picture or word sorts help students at various developmental levels? Give specific examples for each level.

5. How can you incorporate more word study activities into your existing instructional routine? What specific activities/strategies would you include?

6. What word study activities will you encourage your students to do at home? Why?

7. How can the use of word families help students who have difficulty with word attack skills?

8. What kinds of things will you have your students include in their word study notebooks?

9. How will learning word origins be beneficial to older students in school and in the real world?

WORKSHOP ACTIVITIES

I. Planning a Balanced Reading Approach

Materials

8 ½" by 11" sheets of white paper

4" × 6" index cards

Pens

Rubber bands

1. Ask each participant to fold a sheet of the white paper into four equal parts and write these headings on the paper: Working With Words, Guided Reading, Self-Selected Reading, and Writing.

2. If the purpose of the workshop is to focus only on Chapter 3, then participants may only complete the Working With Words section. They could complete the remaining three sections either on their own or in future workshop sessions. If the workshop focuses on the entire book, then all of the sections may be completed, or participants may at least make notes in all four sections as they think of ideas. After

Working With Words	*Guided Reading*
Self-Selected Reading	*Writing*

participants have prepared their sheets with the four headings to indicate a balanced reading approach, explain that this will help them to think both of the "big picture" of balanced reading as well as the individual components.

3. Participants can work as individuals, with a partner, or in small groups of 4–6. Ask participants to concentrate on the Working With Words section of the paper and think of strategies/activities that are developmentally appropriate to use with their students to help them with word study. Participants may choose strategies/activities from Chapter 3 as well as additional ones from other sources or ones they have used successfully in their classrooms. Participants will give each strategy/activity a name and then write those names in the Working With Words section of the paper.

4. Then instruct participants to prepare an index card for each activity in order to create a card file of strategies/activities. See the example below.

Name of Strategy/Activity

Developmental Level
Purpose of Strategy/Activity
Brief Description
Time Needed
Materials Needed
Source

The purpose of the card file is for participants to locate easily word study strategies and activities that can be planned in advance or that can be assembled quickly when fillers or extra practice is needed to accompany lessons. Cards can be placed in alphabetical order by strategy/activity name and secured with rubber bands. Participants may wish to purchase file boxes to store the cards.

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Word Boxes

Level
Letter Name–Alphabetic Stage

Purpose
Identify letter-sound correspondence

Description
Students can write letters or place letter manipulatives in boxes that correspond with the number of sounds heard.

Time
10–30 minutes

Materials
Paper divided into word boxes, pencils, or letter manipulatives

SOURCE: Bender & Larkin (2003). *Reading strategies for elementary students with learning difficulties.*

TEACHING ORIENTATION ACTIVITIES

I. Picture and Word Sorts

Materials

Pictures from magazines or clip art pictures for picture sort

List of words for word sort

White index cards

Colored index cards

Markers

Glue sticks

Plastic bags with zip closure

Participants working as individuals, partners, or in small groups of 4–6 can make their own Picture and Word Sort kits by using the markers to write words from the word list on white index cards (i.e., one word per card) or paste one picture per card. If generating their own word lists or cutting their own pictures from magazines, participants first will need to determine the categories for the word or picture sorts (e.g., letters *b, c, d;* long *e* and short *e; at, it, an, in* word families, etc.). A heading card will need to be made for each category selected. Heading cards should be made on colored index cards to distinguish them from word cards. Participants then can practice sorting

words and pictures into categories. Participants may wish to circulate around the room to view each other's Picture and Word Sort kits. Each kit can be stored in a plastic bag and labeled by headings.

II. Analyzing Unfamiliar Words

Materials

Copies of stories, text chapters or other reading materials appropriate for students' developmental levels

A variety of colored highlighters

Index cards

Dictionaries

Ask participants to read the story, text chapter, or other reading material to determine words with which they think that some or all of their students may have difficulty. As they encounter the words, participants are to either highlight the words (i.e., if permissible to mark on the reading materials) or write the words on index cards (i.e., one word per card). Participants should count how many times each unfamiliar/problem word appears in the reading selection and make a note either in the margin of the reading material or on the index card containing that word. While reading the selection each participant should begin to analyze the unfamiliar words following the steps outlined in Chapter 3: (a) look for prefixes, suffixes, and base words; (b) look for familiar patterns or word families; (c) read the word in context; (d) use a dictionary; and (e) record in word study notebook. The different colored highlighters also can be used to highlight prefixes, suffixes, and base words on the index cards. Once participants have tried the Analyzing Unfamiliar Words Strategy, then the facilitator may wish to have a discussion of Word Study Notebooks.

4

Strategies for Building Vocabulary and Reading Fluency

MAJOR POINTS

This chapter presented strategies for *building vocabulary* and for increasing *reading fluency.* Each of these skills is critical for continued reading success in the elementary grades, and each should be stressed. We now understand that vocabulary can best be built by exposure to new works, and repetitive use of those new terms. Whereas most vocabulary terms are not—and should not be—directly taught, there are times when specific teaching of vocabulary terms is critical. For example, teaching terms that are specific to a subject area is important, since understanding of the specialized terms is essential for understanding the underlying concept or construct in many subject area classes.

The chapter presented a brief history of sight word instruction, and pointed out that reading by sight—i.e., *automaticity* in reading—is critical for advanced readers. Indeed, good readers routinely read entire words and even entire phrases as a unit, without individually sounding out the terms. However, while some sight word reading skills are important, this does not mean that students should be instructed primarily using a sight word approach. Rather, research has shown that phoneme based instruction, coupled with mastery of the alphabetic principle and the alphabetic code, are critically important skills for developing readers.

Reading researchers have listed a number of ways in which students learn new vocabulary, *including listening to good readers read, engaging in daily oral language exercises, and reading individually,* when the reading is

closely monitored. The remaining sections of the chapter presented a wide array of strategies for teaching vocabulary and reading fluency.

GENERAL DISCUSSION QUESTIONS

1. How does hypertext work? What advantages can hypertext and/or video technologies offer to enrich the reading process in terms of vocabulary mastery?

2. What is "anchored instruction?" How can anchored instruction assist students with vocabulary development?

3. Describe the "keyword" method for vocabulary instruction, and give an example of how this may be used in an elementary reading program. How could this be used in a sixth grade content subject?

4. Why are graphic organizers presented in the context of this chapter? Isn't a graphic organizer used to teach reading comprehension? What is the relationship between reading vocabulary and reading comprehension?

5. What are the different conceptual bases around which a teacher can construct a GO? Describe several GOs that are constructed using different constructs.

6. Have a member of the workshop describe a SFA? What is the purpose of an SGA, and how does this strategy differ from a GO?

7. What does IT FITS stand for? Describe one application of this strategy for learning vocabulary in an elementary reading class.

8. Discuss the levels of reading fluency, and the types of reactions which students may have to texts at various levels of difficulty.

9. Describe the use of a repeated reading strategy. How does use of repeated readings assist the child in both vocabulary development and in reading fluency?

WORKSHOP ACTIVITIES

I. Selecting Your Vocabulary Building Strategy: A Gallery Walk Activity

Materials

8 to 10 pieces of poster board

Markers

Tape

1. Prepare posters that list one of the strategies described in this chapter for building vocabulary (e.g., wordbank, semantic web, IT FITS, etc.). Post these 8 to 10 posters around the room in which the workshop is to be held.

2. In a gallery walk, participants in the workshop are encouraged to consider an array of options or choices for reading instruction. As participants enter the workshop room, they should be encouraged to "walk the gallery" by circling the entire room and reading the posters that have been placed on display. Each workshop participant should then select one topic that he or she wishes to discuss further.

3. After groups of participants are formed around each poster in the gallery, have those groups discuss the tactic or strategy by referring back to the chapter.

4. Have the group list advantages/disadvantages of the strategy, and share examples of how they may have used the strategy in the past (some workshop participants probably will have experience with some of these strategies).

5. Have the group develop an example of the application of that strategy for a specific class of students in a particular subject area.

6. Each group should complete the work above in approximately 30 minutes, with the workshop facilitator moving between the groups and serving as a resource for each group as necessary. The different groups should then re-form into a whole, and share their discussions and examples with the larger group.

TEACHING ORIENTATION ACTIVITIES

I. Analyzing Fluency in Reading a Text

(This strategy requires access to students between two workshop sessions)

Materials

A student with reading problems

Two copies of a text at a grade level appropriate for the student

Transparency sheets

Pens for marking transparency sheets

A stopwatch or watch with a second hand

1. Have the participants select a student who is having reading problems; the participants will need to work with this student between the workshop sessions.

2. Next, have each participant select a reading text for that student to read.

3. While the student reads a selection of 100 to 150 words, the teacher should mark the oral reading errors for that student on a copy of the text that is covered by the transparency sheet.

The teacher should note all mispronunciations or word reading errors by marking through the word. Also, participants should note any omitted words by circling the word.

4. The teacher should time the student's reading.

5. In the workshop session the next day, have the teachers figure a reading fluency measure such as "correct words per minute." Add the total number of words read correctly from the reading passage, and divide by the number of minutes and tenths of a minute the student took to complete the passage.

6. Teachers should also do an analysis of the oral reading errors and identify any specific problems in vocabulary.

7. Share these reading errors with the group and discuss how this type of analysis of reading fluency can indicate particular problems a specific child is having with reading.

5

Gaining Meaning From Reading

MAJOR POINTS

Good readers interact with the material that they are reading by relating the ideas contained in print to their own background knowledge and then constructing mental representations in their memory. Students with learning difficulties may struggle to process the information and thus, have poor reading comprehension. The National Reading Panel (NICHD, 2000) identified seven categories of text comprehension instruction that are supported by research.

Chapter 5 focuses on eight different strategies to help students gain meaning from what they read. *Story Grammar* aids comprehension by identifying story elements and their relationships. *Student Think-Alouds* enable students to share their thinking to assist with comprehension monitoring. *Question Answering* helps students to employ four types of questioning strategies to locate accurate information to answer questions. In *GIST Summaries* students learn to use single sentences to summarize information from a paragraph. *Improvisational Drama* encourages students to act out and reflect on material they have read or created. *Cooperative Discussion and Questioning (Coop-Dis-Q)* provides struggling readers with the opportunity to work with others to make meaning of a story or novel. *Collaborative Strategic Reading (CSR)* teaches students several strategies to improve their comprehension, increase vocabulary, and work cooperatively with peers. *Bibliotherapy* gives students a chance to identify with the story's characters and events and provide insight into dealing with story situations that emulate real-life problems and situations.

GENERAL DISCUSSION QUESTIONS

1. What student behaviors should you notice that might indicate that students are having difficulty with reading comprehension?

2. How can you incorporate some or all of the seven categories of text comprehension recommended by the National Reading Panel into your instructional routines?

3. What cues or prompts can you give to help your students tap into their background knowledge when reading?

4. Which of the multiple strategy routines discussed in this chapter do you think would be most beneficial for your students? Why?

5. What role does teacher modeling play in helping students with reading comprehension?

6. How can you help students to generate appropriate questions to guide their reading?

7. What are some specific ways that improvisational drama could be incorporated into your students' reading assignments?

8. What are some additional follow-up activities you might generate to accompany some of the comprehension strategies in this chapter?

9. How can you use some of the cooperative learning strategies to aid reading comprehension in your classroom?

WORKSHOP ACTIVITIES

I. Using Background Knowledge

Materials

Index cards with suggested topics written on them

Container (i.e., box or bowl) for index cards

Paper and pencil or overhead transparencies and markers

1. Advance Preparation. As facilitator, you will need to write topics on the index cards (i.e., one topic per card). You may choose some or all from the suggested topics list or provide your own topics, or ask participants to generate their own topics. Make sure that the topics are ones with which most participants would be familiar and are topics that could be described both ambiguously and specifically.

Suggested Topics

Making a sandwich	Doing laundry
Driving a vehicle	Ordering a product online
Watching television	Making a cake
Playing a sport	Having a conversation
Reading a book	Doing homework

2. Participants can work as individuals, with a partner, or in small groups of 4–6. Each participant, pair, or small group draws an index card with the suggested topic from the container and then writes on paper or transparency two different versions of "how to perform" the topic. The first version is to be ambiguous so that someone unaware of the topic would have difficulty identifying the topic. The second version is to be very specific so that someone unaware of the topic easily could identify the topic.

3. Individual participants, pairs, or small groups then share with the remainder of the participants by reading aloud the first version of their topic and asking the others to use their background knowledge to see if they can determine the topic. Next, they read the second version for comparison.

4. The facilitator should help participants discuss the importance of using background knowledge and making specific comparisons between what is known and what is being read and learned.

TEACHING ORIENTATION ACTIVITIES

I. Story Map (Story Grammar)

Materials

Copies of a short story that students might read

Overhead transparency of a story map graphic organizer for each group (e.g., found at *http://www.smcps.k12.md.us/mbms/writing/storymap.html*)

Overhead markers

Completed version of the same story map graphic organizer for another short story

Introduce the story map graphic organizer form to the participants and show them a completed version of the same story map used for another short story. Teachers/participants will work in small groups of

4–6. Assign each group to pay attention to a particular character in the short story as they read. Once most of the participants have read the story, then they can work in their groups to complete the story maps. Ask groups to use their transparencies to share how their assigned story character viewed the elements of the story.

II. Question Answering

Materials

Copies of a short story that students might read (may be the same as in the story map activity)

A list of questions about the story for each participant or group (questions should require use of the four kinds of questioning strategies: (a) right there, (b) think and search, (c) author and you, and (d) on my own.)

Introduce the four kinds of questioning strategies to the participants and provide examples of each. Participants may work individually or in small groups of 4–6 to determine the answers to the questions as well as the type of questioning strategy used to answer each question. Ask participants first to read the list of questions and then read the story. Make sure that participants note beside each question which questioning strategy they used. When all participants/groups are finished, ask them to share their responses and strategies used to determine if there are any discrepancies. Discuss any discrepancies in responses or use of questioning strategies.

III. Improvisational Drama

Materials

Copies of a short story that students might read (may be the same as in the story map or question answering activities)

Story props (optional)

In classes/groups of large numbers of participants, ask them to divide into small groups where each person will be able to be one of the story characters. Time to preread the character parts may help the participants to feel more comfortable before acting. One person will be the teacher/narrator. The teacher narrator reads part of the story and then stops and asks the participants in the group to act out what was just read. The facilitator may tell the teacher/narrator to read no more than one page of text before stopping and having the participants act out that portion of the story. Props may be available for each

group if desired. Once the reading and dramatization are completed, ask participants either in small groups or as a large group/class to share their reflections about the activity and how they can use improvisational drama in their classrooms.

6

Reading Comprehension in the Content Areas

MAJOR POINTS

Success in content area reading requires that students be proficient with phonemic awareness, phonics, vocabulary, and comprehension skills. Unfortunately, students with learning difficulties may struggle with some of these skills, thus making content reading laborious. Yet, even young children can begin to work on content by looking for "cue" words such as first, second, third, or like and unlike. They can learn to recognize sequence and make comparisons. Through carefully scaffolded instruction, elementary and middle school students can learn about basic graphic organizers and strategies to aid their content comprehension.

Chapter 6 focuses on nine different strategies to improve content comprehension. *KWPLS* incorporates both a strategy and graphic organizer (GO) to help individuals record succinctly what they *Know, Want to know* about the topic, *Predict* will happen or be discussed next in the reading passage, *Learned* from what they read, and *Summarized* from what they read and knew. *Analogies Instruction* may incorporate a GO to help students compare something new with something familiar. *Possible Sentences* and *Vocabulary Self-Collection (VSS)* strategies help students learn content area vocabulary. *Guided Reading in Textual Settings (GRITS)* incorporates a number of research-validated strategies including GOs to focus on the before, during, and after reading sequence. *ReQuest: Asking Self-Declared Questions* provides practice in formulating good questions to guide reading. *Idea Circles* and *Intra-Act: Sharing Perspectives* hone students' discussion skills. *Question-Answer Relationships* assists students in locating answers to comprehension questions in written materials.

GENERAL DISCUSSION QUESTIONS

1. What ineffective strategies have you observed your students using during content area reading assignments and activities?

2. Why do you think your students may be using ineffective strategies?

3. How can having individual conversations with students regarding the kinds of strategies they use for content area reading benefit both you and your students?

4. What content area reading strategies do you think would be most beneficial for your students to learn?

5. What role can graphic organizers play in your classroom to aid content reading?

6. How can teachers help students to ask themselves and others meaningful questions about content?

7. How can you effectively incorporate content vocabulary strategies into content reading?

8. How will you get students invested in using specific strategies and graphic organizers for content area reading?

WORKSHOP ACTIVITIES

I. Selecting Strategies to Teach

Materials

Chart paper and markers

or

Computer(s), Inspiration (webbing) software, and projection equipment

1. Ask teachers/participants to brainstorm appropriate and inappropriate strategies they may have seen their students use when given content area reading assignments or activities. The facilitator may record the brainstormed ideas in a web on chart paper (or computer using Inspiration software) or ask teachers to work in groups of 4 to 6 individuals and designate someone in each group to record the group's ideas. If teachers are working in small groups, then the facilitator may ask the groups to share their ideas with everyone once each group is finished recording its ideas. If using Inspiration software, be sure to use projection equipment to display for everyone the web(s) created by the whole or individual groups.

2. Briefly preview/introduce several of the strategies for content area reading discussed in Chapter 6. You may want to use some of the Orientation Activities described below.

3. Conduct large or small group brainstorming sessions to determine which of the Chapter 6 strategies would target the problems that were mentioned in step 1. Record ideas on chart paper or use Inspiration software.

TEACHING ORIENTATION ACTIVITIES

I. KWPLS

Materials

Blank copies of KWPLS charts

Content area textbooks

The facilitator may choose any topic to help the teachers/participants experience KWPLS (e.g., *Teaching Content Reading Strategies to Students With Learning Difficulties*). Another option would be to ask the teachers/participants to bring a student copy of a content area textbook that they currently are using in their classroom. Keep in mind the Teaching Tip: Scaffolding Graphic Organizer Instruction, which also applies to instructing adults. First, the facilitator should introduce the KWPLS strategy and graphic organizer form and explain a completed example. Next, the facilitator might ask the teachers/participants to work in groups to help each other prior to working individually to complete a KWPLS form.

II. Analogies Instruction

Materials

Lined notebook paper divided into two columns

Content area textbooks

The most difficult part of analogies instruction may be suggesting appropriate comparisons (i.e., determining familiar concepts/ideas for which students will have sufficient background knowledge and with which they will be able to make comparisons on several statements). Therefore, teachers/participants may find it useful to keep an analogies journal to record appropriate comparison topics. Teachers/ participants should bring a text or reading materials that they are using to teach particular content area subjects or be provided with some content material. Then they can work with a partner or in small groups of 4–6 to generate

topics for which they would like their students to use analogies to make comparisons between something familiar and the new concept(s)/idea(s) about which they are reading. These concepts/ideas should be recorded in the left column of the notebook paper and should be labeled as Concepts/Ideas To Be Learned. If these concepts/ideas correspond with particular objectives or curriculum standards, then the numbers of the objectives or standards also may be included. The right column of the paper should be labeled as Familiar Concepts/Ideas. Make sure that the Familiar Concepts/Ideas generated through brainstorming are placed on the appropriate lines to correspond with the Concepts/ Ideas To Be Learned. Encourage the teachers/participants to add to this list as they plan future lessons and think of appropriate comparisons. Ideas/concepts suggested or used by students may be included, too.

III. Possible Sentences

Materials

3" × 5" index cards

Content area textbooks

Colored markers

Teachers/participants work individually for this activity, and then they work in pairs. Self-selected pairs should be determined prior to the activity and matched as closely as possible based on the content area(s) that they teach. First, each teacher/participant works individually by selecting 6–8 words (i.e., usually key concepts) that might pose difficulty for students. Each of these words is written on one side of an index card (i.e., one word per card) using one color (e.g., red) of marker. Each teacher/participant also may want to provide a short definition on the reverse side of the difficult word cards. Then each teacher/participant chooses 4–6 words that are familiar to students and writes each word on one side of an index card (i.e., one word per card) using a different color (e.g., green) of marker from the difficult words.

When both teachers/participants in a pair have completed making a set of word cards (i.e., 6–8 difficult words and 4–6 familiar words) then the two teachers/participants trade sets of cards. Then each teacher/participant generates as many possible sentences as he or she can using the word cards. The facilitator may put parameters on the activity such as:

a. One difficult word and one familiar word in a sentence
b. Two difficult words in a sentence
c. Three or more difficult words in a sentence
d. As many difficult or familiar words as possible in a sentence

If appropriate, large group sharing can be done to conclude this activity. Also, teachers/participants may want to make duplicates of cards to share with each other.

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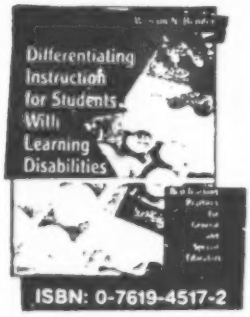

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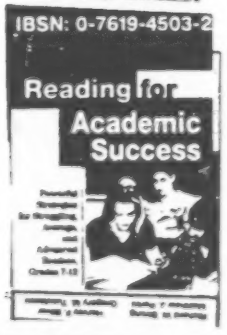

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